



Theory Assignment Report

Only for course Teacher						
		Needs Improvement	Developing	Sufficient	Above Average	Total Mark
Allocate mark & Percentage		25%	50%	75%	100%	25
Understanding/Analysis	7					
Implementation	8					
Report Writing	10					
Total obtained mark						
Comments						

Semester: Spring 2024

Submission Date: 19/05/2024

Course Name: System Analysis & Design Capstone Project

Course Code: SE-231

Course Teacher Name: Ms. Tapushe Rabaya Toma

Designation: Assistant Professor, Department of Software Engineering.

Group Member Details:

Student Name
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Online Medicine Shop

Introduction

Online Medicine Shop has become a household name in e-commerce. The platform aims to provide a seamless and convenient shopping experience for all medical needs. With a diverse selection of pharmaceuticals, over-the-counter medications, vitamins, and health products, Online Medicine Shop is a one-stop destination for all things health-related.

Objective

The primary objective of The Online Medicine Shop is to provide a convenient, reliable & user-friendly platform for customers to access a wide range of pharmaceuticals, wellness products, and healthcare essentials from the comfort of their homes. We aim to revolutionize the way individuals procure medications and health-related items by offering a seamless online shopping experience that prioritizes accessibility, affordability, and quality. Our goal is to become the go-to destination for all healthcare needs, fostering a community of informed and empowered individuals who prioritize their health and wellbeing.

Key Features

- **User Registration and Login:** The system facilitates a straightforward registration process for users, ensuring secure access through robust authentication mechanisms.
- **Profile Management:** Customers can easily create and update their profiles as their need, allowing for personalized experiences.
- **Ordering Medicine and Health-Care Products:** The system provides a dynamic process of ordering multiple prescribed medicine and health-care products based on popular suggestions and customer's preferred brand.
- **Checkout Process:** The system enables customers to undergo a verification of customer's authentication and ordered items, and seamlessly transition into the billing phase.
- **Billing and Payment:** The system automates the billing process based on the products. Multiple payment options are provided, and the system ensures prompt updates to payment status and meticulous record-keeping.

- **Notification System:** The system keeps customer informed at every steps, the system incorporates automated notifications. Users can customize their preferences, ensuring timely updates on health-care products, payment statuses and delivery statuses.
- **Track Product & Delivery Details:** The system allows customer to track their undelivered products, view the estimated delivery time, information about the delivery man and even contact the delivery man if needed.
- **Helpline Support:** A dedicated 24/7 helpline feature offers customers immediate assistance, complemented by access to FAQs and resolutions for common issues, further enhancing the overall customer support experience.
- **Security Measures:** With a paramount focus on security, the system employs industry-standard measures such as secure socket layer (SSL) for data encryption, robust user authentication and authorization, regular system vulnerability updates, and a secure transaction process for financial activities.

The Online Medicine Shop aims to provide nationwide customer service in the field of medicine and health-care with customer satisfaction. The system operates integrating advanced functionalities, prioritizing user experience, and ensuring the utmost security.

Scenario Writing

Maya is a busy working mom with limited free time. Maya rushes home from work, exhausted but relieved to be back. Suddenly, her son Sam appears, flushed and feverish. Panic sets in. It's past midnight, and the nearby pharmacy is closed. Remembering a friend's recommendation, Maya opens browser on her phone.

With a few taps, she searches for Sam's usual fever medication. The app displays clear dosage instructions and even offers alternative brands at different price points. Maya selects the preferred option and schedules a same-day delivery for the morning.

Relief washes over her. She tucks Sam into bed, knowing help is on the way. In the morning, while Maya prepares breakfast, a friendly delivery person arrives with the medication. She verifies the order and pays using the secure in-app payment system.

Later that day, Sam is feeling much better, thanks to the prompt medication delivery. Maya is grateful for the convenience and efficiency, especially during a stressful time.

Scenario-1: Add Profile

Scenario Description:

- Request for add profile.
- Provide required field.
- Field filled up.
- Submit to add profile.
- Profile added successfully.

Scenario-2: Ordering Medicine

Scenario Description:

- Request to search a medicine.
- Checking if the medicine is available.
- Select medicine.
- Add to cart and checkout.
- Ordering medicine complete.

Scenario-3: Make bill

Scenario Description:

- Request for Bill making.
- Bill making successful.

Scenario-4: Pay Bill

Scenario Description:

- Request for Bill pay.
- Provide Bill ID.
- Select Payment Method.
- Pay Bill.
- Bill Paid Successfully.

Stakeholder

The key stakeholders involved in this Online Medicine Shop are:

- a) Customers.
- b) Medicine Shop Owner.
- c) Supplier.
- d) Delivery Man.
- e) System Administrator.
- f) Verified Authority.

User Profile

(a) Profile-1: Customer

User Class	Notes on Characteristics	Requirement Implied
Type of user	Customer	User Interface, Verification
Age Range	15-80	Verification
Frequency of use	Couple of times a month	Performance, Operation, Acceptance, Maintainability
Mandatory	No	
Computer Experience	Comfortable using computers	
Education	Primary Level (minimum)	
Goals	Discover products, purchase products	Performance, resource, maintainability, security, user interface
Language Skills	Bangla, English	
Number of Users	Many	Acceptance, Operation, Performance
Training	No formal training required	User Interface
Other System used	May use other e-commerce platforms	
Ways of working	Browsing, Wishlist, Feedback	Acceptance, Operation, Safety, Security

(b) Profile-2: Medicine shop Owner

User Class	Notes on Characteristics	Requirement Implied
Type of user	Medicine shop Owner	User Interface, Verification
Age Range	25-65	Verification
Frequency of use	Full Time	Performance, Operation, Acceptance, Maintainability
Mandatory	Yes	
Computer Experience	Proficient in using computers	User Interface
Education	Background in Business, Management or related fields	
Goals	Maintain, Optimize sales, Improve customer experience	Performance, Resource, Maintainability, Security, User Interface
Language Skills	Bangla, English	
Number of Users	1	Acceptance, Operation, Performance
Training	Training Required	Documentation, User Interface
Other System used	May use other system	Documentation
Ways of working	Take full support for inventory, Order processing, Customer support	Acceptance, Operation, Safety, Security

(c) User profile-3: Supplier

User Class	Notes on Characteristics	Requirement Implied
Type of user	Supplier	User Interface, Verification
Age Range	25-65	Verification
Frequency of use	Regularly uses	Performance, Operation, Acceptance, Maintainability
Mandatory	Mandatory	
Computer Experience	Training required	User Interface
Education	Knowledge in medicine	
Goals	Supply products, Inventory	Performance, Resource, Maintainability, Security, User Interface
Language Skills	Bangla, English	
Number of Users	Many	Acceptance, Operation, Performance
Training	Training Required	Documentation, User Interface
Other System used	May utilize their own inventory management systems	Documentation, User Interface
Ways of working	Order processing, Inventory, Payment	Acceptance, Operation, Safety, Security

(d) User Profile-4: Delivery Man

User Class	Notes on Characteristics	Requirement Implied
Type of user	Delivery Man	User Interface, Verification
Age Range	18-45	Verification
Frequency of use	Regularly uses	Performance, Operation, Acceptance, Maintainability
Mandatory	Not mandatory	
Computer Experience	Not required	User Interface
Education	Basic knowledge of their products	
Goals	Supply products, Inventory	Performance, resource, maintainability, security, user interface
Language Skills	Bangla, English	
Number of Users	Many	Acceptance, Operation, Performance
Training	Receives training on using supplier portal	Documentation, User Interface
Other System used	May utilize their own inventory management systems	Documentation, User Interface
Ways of working	Order processing, Inventory, Payment	Acceptance, Operation, Safety, Security

(e) User Profile-5: System Administrator

User Class	Notes on Characteristics	Requirement Implied
Type of user	System Administrator	Verification
Age Range	21-55	Verification
Frequency of use	Regularly uses	Performance, Operation, Acceptance, Maintainability
Mandatory	Mandatory	
Computer Experience	Proficient in using computers and troubleshooting common problems.	User Interface
Education	Bachelor's degree in Computer Science or related field (preferred)	
Goals	<ul style="list-style-type: none">▪ Ensure the smooth operation and stability of all systems and applications.▪ Protect customer data and ensure compliance with all relevant data privacy and security regulations.▪ Provide technical support to customers.▪ Stay up-to-date on the latest technology trends and security threats.	Performance, resource, maintainability, security, user interface
Language Skills	Bangla, English	
Number of Users	1-2	Acceptance, Operation, Performance
Training	Training on the specific systems and applications used by the shop, as well as data privacy and security regulations.	Documentation

Other System used	May use other system to keep the system running and updated.	Documentation
Ways of working	Troubleshooting system issues, monitoring system performance, implementing security updates, managing user accounts, and providing technical support.	Acceptance, Operation, Safety, Security

Scope

An “Online Medicine Shop” project aims to develop a web-based application that allows customers to purchase medicines and health-care products directly from the seller in a real-time environment. There are various components to be considered for an online medicine shop, such as:

- **User registration and authentication:** Users can create an account, log in, and manage their personal information.
- **View Product Details:** The online medicine shop should have a comprehensive medicine catalog, including images, descriptions, way of using and prices.
- **Shopping cart and checkout:** Customers can add medicine and health-care products to their shopping cart, view their order history, and complete the purchase through a secure payment process.
- **Notification:** Automated notifications to keep customer informed of checkout requests, and payment status. Customizable notification preferences for users.
- **Order processing and tracking:** The system should handle order processing, tracking, and delivery management.
- **Inventory management:** The online medicine shop should have an efficient inventory management system to track product availability and reserve items for purchased orders through suppliers.
- **Reviews and ratings:** The online medicine shop should allow customers to rate and review products, helping other users make informed decisions.
- **Helpline:** Provide a 24/7 helpline feature for customers to seek assistance. Access to FAQs and common issues resolution.
- **Security Measures:** Implement secure socket layer (SSL) for data encryption. Secure user authentication and authorization. Regularly update and patch system vulnerabilities.

Feasibility Study

A feasibility study for an online medicine shop from a software engineer's perspective involves assessing the technical, operational, and economic aspects of developing and implementing the online shopping system. Based on the information available, the feasibility study for an online medicine shop can be outlined as follows:

❖ Technical Feasibility:

- **System Requirements:** Evaluate the technical infrastructure required for the online medicine shop, including web hosting, database management, security protocols, and scalability to handle potential growth in user traffic.
- **Software Development:** Assess the feasibility of developing the necessary software components, such as the user interface, product catalog, shopping cart, payment processing, and order management system.
- **Integration:** Determine the feasibility of integrating various software modules and third-party services, such as payment gateways into the online medicine shop system.

❖ Operational Feasibility:

- **User Experience:** Evaluate the operational aspects of the online medicine shop, including user navigation, product search, order placement, and customer support features to ensure a seamless and user-friendly experience.
- **Logistics and Delivery:** Assess the feasibility of establishing operational processes for order fulfillment, inventory management and delivery to ensure timely and accurate order processing.

❖ Economic Feasibility:

- **Cost Analysis:** Conduct a comprehensive cost-benefit analysis to determine the economic feasibility of developing and maintaining the online medicine shop, considering initial development costs, ongoing operational expenses and potential revenue streams.

- **Revenue Projections:** Estimate the potential revenue generation from the online medicine shop based on market demand, competitive pricing, and sales projections to assess the economic viability of the project.
- **Return on Investment (ROI):** Calculate the projected ROI and payback period to evaluate the financial feasibility of the online medicine shop project and determine its long-term sustainability.

❖ Risk Assessment:

- **Security Risks:** Identify potential security threats, such as data breaches, payment fraud, and unauthorized access, and assess the feasibility of implementing robust security measures to mitigate these risks.
- **Market Risks:** Evaluate market competition, changing consumer trends, and potential market saturation to assess the feasibility of establishing a competitive position in the online retail industry.
- **Operational Risks:** Identify operational challenges, such as supply chain disruptions, technology failures, and regulatory compliance issues, and assess the feasibility of implementing risk mitigation strategies.

❖ Scheduling Feasibility:

- **Project Timeline:** Develop a realistic timeline for the different phases of the online medicine shop implementation, taking into account potential delays, testing periods and staff training.
- **Dependencies:** Identify dependencies on external factors, such as third-party integrations or regulatory approvals that may impact the project schedule.

By conducting a comprehensive feasibility study from a software engineer's perspective, the project team can gain valuable insights into the technical, operational, and economic aspects with calculated risks and timeline of developing an online medicine shop. This information can help in making informed decisions regarding the viability and successful implementation of the project.

Project Block Diagram

Block Diagram-1: Customer

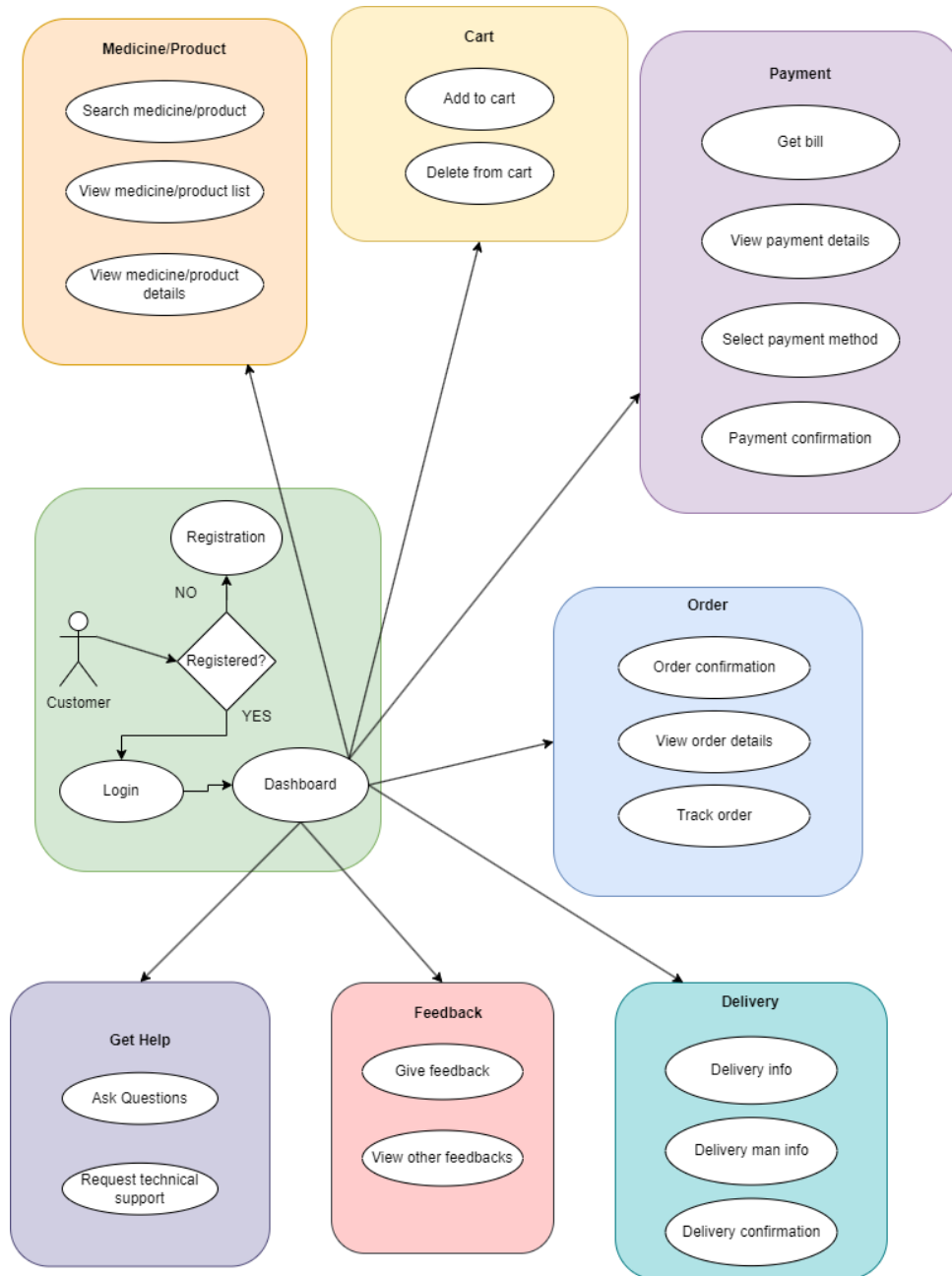


Figure-1: Block Diagram for Customer

Block Diagram-2: Supplier

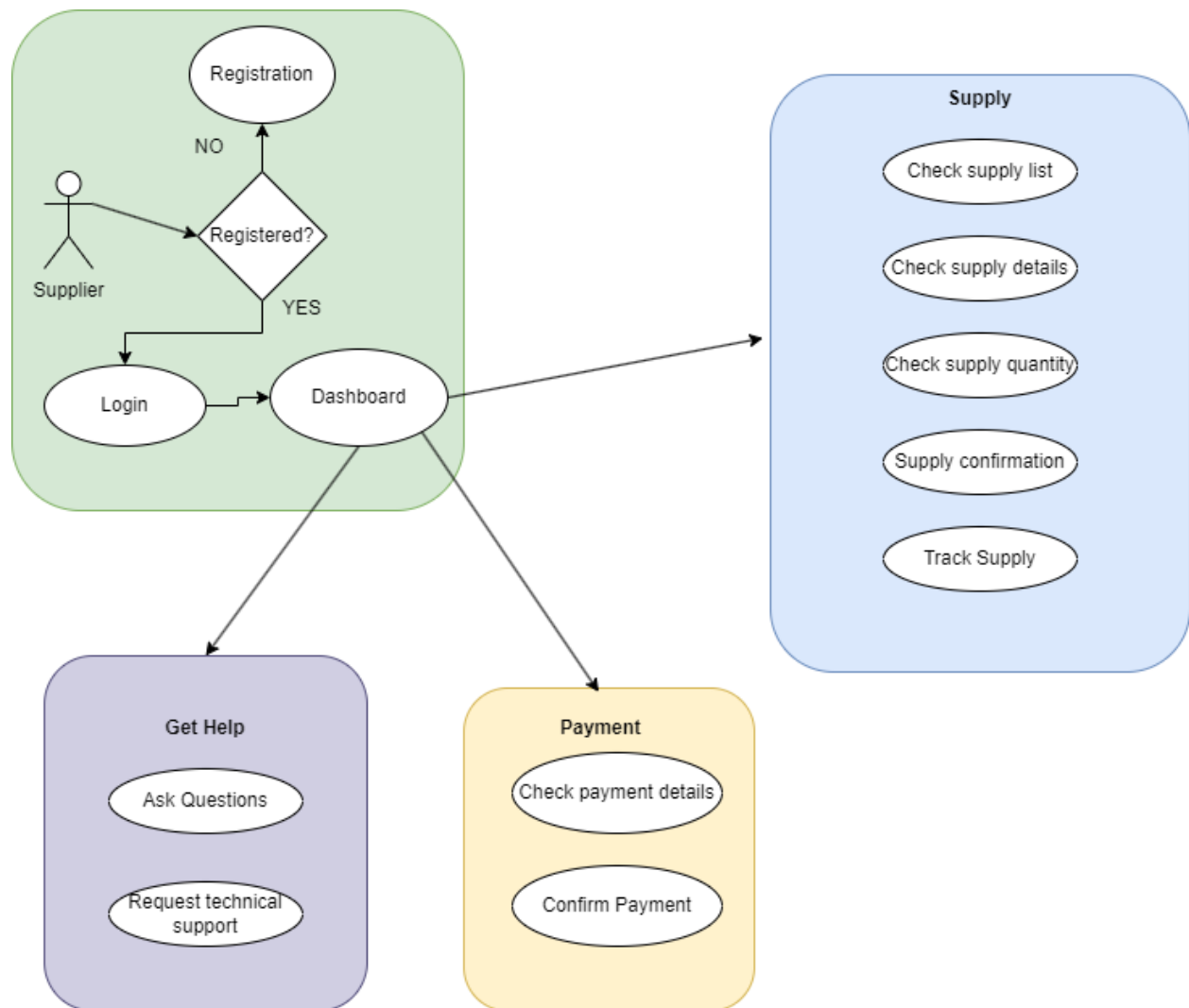


Figure-2: Block Diagram for Supplier

Block Diagram-3: Medicine Shop Owner

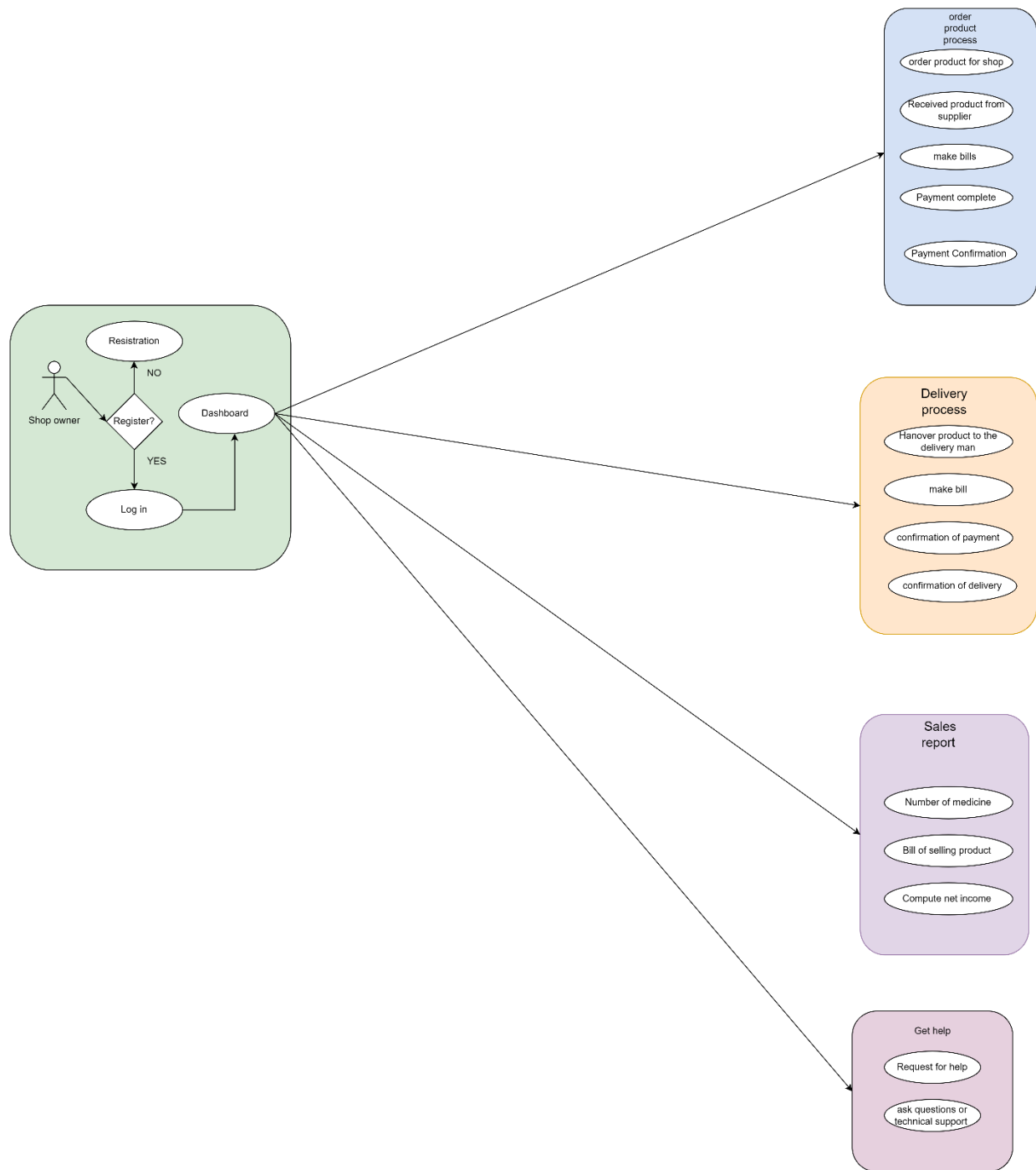


Figure-3: Block Diagram for Medicine Shop Owner

Block Diagram-4: Delivery Man

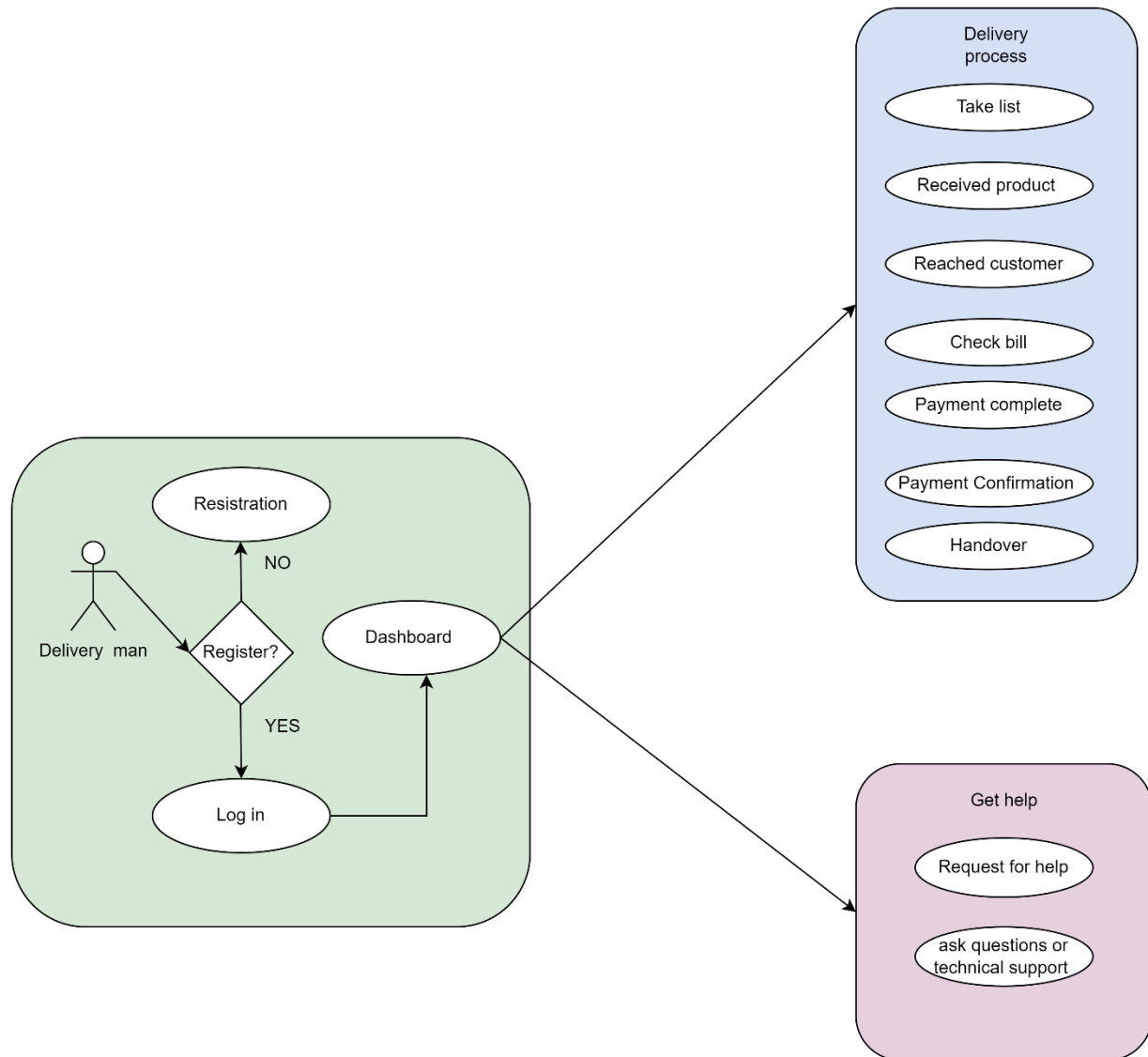


Figure-4: Block Diagram for Delivery Man

Block Diagram-5: System Administrator

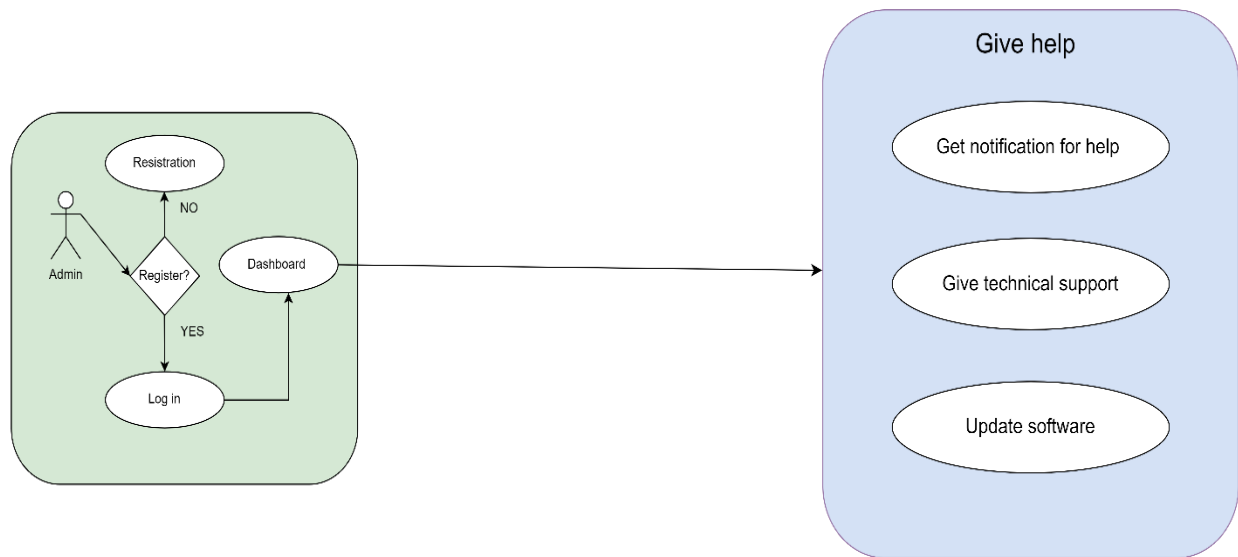


Figure-5: Block Diagram for System Administrator

Software Requirement Specification

SRS

FR01	Sign-up
Description	Users should be able to register for a new account with their email and password.
Stakeholder	Customer, Supplier, Medicine Shop Owner, Delivery Man, System Administrator

FR02	Sign-in
Description	Users should be able to register for a new account with their email and password.
Stakeholder	Customer, Supplier, Medicine Shop Owner, Delivery Man, System Administrator

FR03	Supply Medicine
Description	Supplier will supply the product to the medicine shop owner.
Stakeholder	Supplier

FR04	View Medicine Details
Description	Customers should be able to view detailed information about a selected medicine/product, including specifications, how to use reviews and ratings.
Stakeholder	Customer, System Administrator

FR05	Manage Cart
Description	<p>Customers should be able to update the quantity of medicine/products in their cart.</p> <p>Customers should be able to remove items from their cart.</p>
Stakeholder	Customer

FR06	Check Out and Payment
Description	<p>The system should guide customers through the checkout process.</p> <p>Customers should be able to view shipping details and select a payment method (e.g. credit card, digital wallet, cash on delivery etc.).</p> <p>The system should handle secure payment processing.</p>
Stakeholder	Customer

FR07	Paying Method
Description	<p>The integration should support popular methods, including credit cards, debit cards, digital wallets and online banking.</p> <p>Customer will select their preferred method to complete transaction.</p>
Stakeholder	Customer, Payment Gateway Providers

FR08	Confirming Order
Description	After successful payment, customer should receive an order confirmation notification with order details and a unique order ID.
Stakeholder	Customers, Medicine Shop Owner

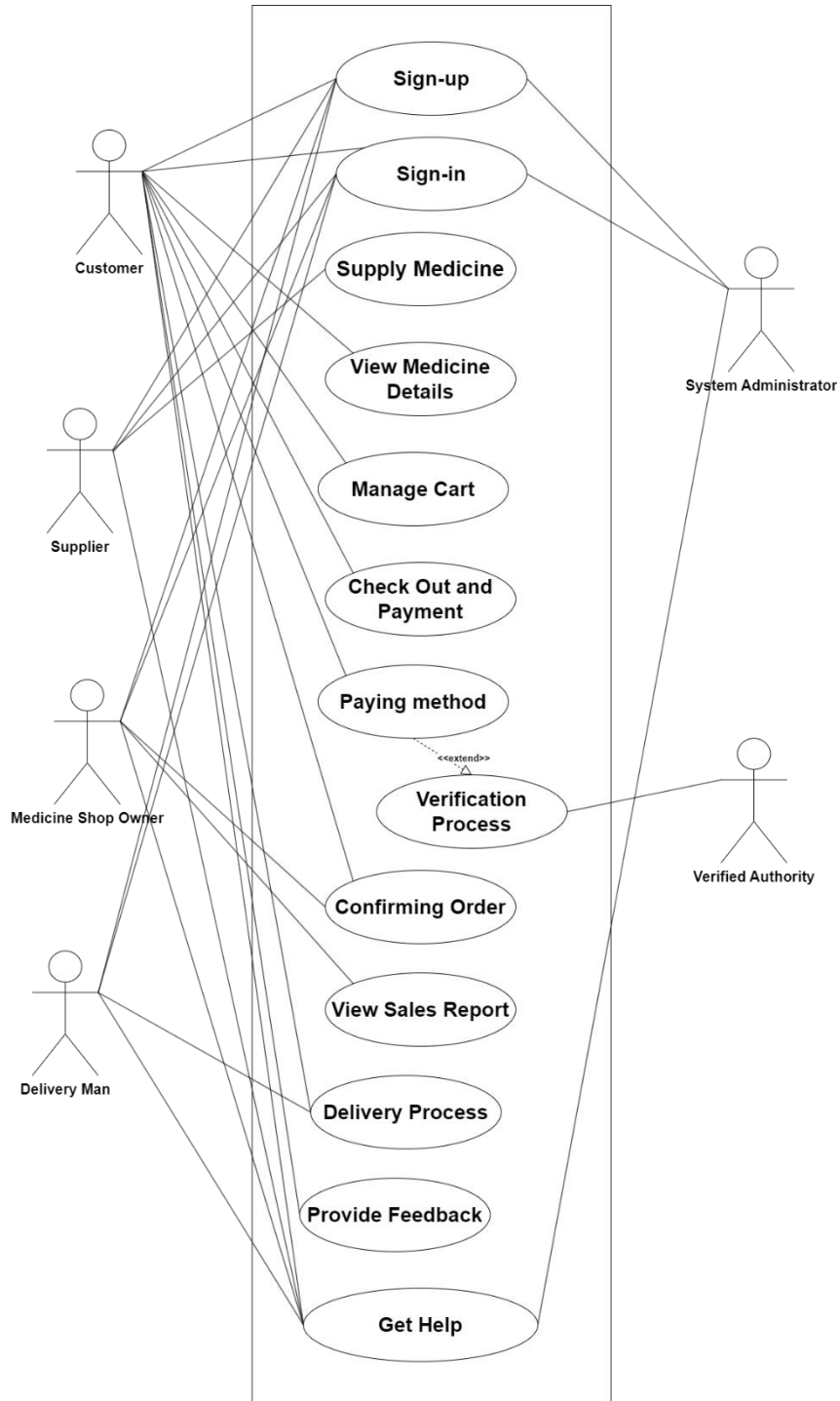
FR09	View Sales report
Description	Shop owner can generate and view the sales report to track which products sell better.
Stakeholder	Medicine Shop Owner

FR10	Delivery Process
Description	The ordered items will be delivered to the customer by the delivery man.
Stakeholder	Customer, Delivery Man

FR11	Provide Feedback
Description	Customer will give feedback upon receiving their ordered products.
Stakeholder	Customer

FR12	Get Help
Description	Customer can ask questions and submit complain regarding the system's functionality.
Stakeholder	Customer, Supplier, Medicine Shop Owner, Delivery Man, System Administrator

User Case Diagram



User Case Description

Case Description-01: Sign-up

Use Case	Sign up	
Goal	The goal is to allow new users to register for an account in the online medicine store system, enabling to access personalized features, make purchases and manage their information securely.	
Precondition	The user is not registered in the system.	
Success End Condition	The user successfully completes the sign-up process, creating a new account, and gains access to the online medicine store system.	
Failed End Condition	The sign-up process encounters errors, preventing the user from successfully creating an account.	
Primary Actors:	Customer, Supplier, Medicine shop owner, Delivery man.	
Secondary Actors:	System Administrator.	
Trigger	The user request to the sign-up process by selecting the "Sign Up" or "Register" option on the online medicine store platform.	
Description / Main Success Scenario	Sign up	
	1.	user navigates to the sign-up page from the main interface.
	2.	user provides necessary information, including name, email address, password, and any additional required details.
	3.	system validates the provided information, checking for proper formatting, unique email addresses, and strong password criteria.
	4.	If the information is valid, the system creates a new user account, assigning a unique identifier and storing the provided details securely
	5.	system sends a verification email to the user's provided email address to confirm the registration.
	6.	user verifies their email address by clicking on the verification link provided in the email.
	7.	System activates the user account upon successful email verification. System store data in database

Alternative Flows	1.1	System Error.	
		1.1.a. Try Again!!	
	2.1	System Doesn't work.	
		2.1.a. Try Again Later!	
	3.1	Invalid email or password criteria	
		3.1.a. Try Again!!	
	5.1	Verification email can't be delivered.	
		5.1.a. Show Error Message. System provides alternative methods for verification	
	7.1	The system Doesn't save the details.	
		7.1.a. Notification: "Details did not Save"	
Quality Requirements	Step	Requirements	
	1	The sign-up process should have a user-friendly interface.	
	2	User information should be stored securely and unauthorized access should be prevented.	
	3	System should efficient, minimizing delays and ensure a smooth experience.	
	4	The email verification process should be reliable, and the system should handle cases where email delivery may fail.	

Case Description-02: Sign In

Use Case	Sign in	
Goal	The goal is to enable registered users to authenticate themselves and gain access to their accounts in the online medicine store system	
Precondition	The user is already registered in the system.	
Success End Condition	user successfully completes the sign-in process, authenticates their identity and gains access to the online medicine store system.	
Failed End Condition	The process showing errors, preventing the user from successfully accessing their account.	
Primary Actors:	Customer, Supplier, Medicine shop owner, Delivery man.	
Secondary Actors:	System Administrator.	
Trigger	The user request to the sign-in process by selecting the "Sign In" or "Log In" option.	
Description / Main Success Scenario	Sign In	
	1.	user navigates to the sign-in page from the main interface.
	2.	user provides their registered email address and password.
	3.	system authenticates the user by comparing the provided information with the stored information in the user database.
	4.	If the information are valid, the system grants access to the user, allow them to enter the system and access personalized features.

Alternative Flows	1.1	System Error	
		1.1.a. Try Again!!	
	2.1	Invalid email or password	
		2.1.a. Try Again!	
	3.1	Invalid sign in information.	
		3.1.a. system prompts the user to re-enter the information	
	3.2	Forgot password.	
		3.2.a. Reset it by following the "Forgot Password" process.	
	4.1	System Error.	
		4.1.a. Show Error Message. Try Again!	
Quality Requirements	Step	Requirements	
	1	The sign-in process should have a user-friendly interface.	
	2	User information should be stored securely and unauthorized access should be prevented.	
	3	System should efficient, minimize delays and ensure a smooth experience.	
	4	The system should effectively handle errors.	

Case Description-03: Supply Medicine

Use Case	Supply Medicine																							
Goal	Supply medicines/products to the owner. Enable suppliers to efficiently list and manage their products within the online medicine shop system, contributing to the platform's inventory and enhancing product availability for customers.																							
Precondition	Supplier is registered and authenticated in the online medicine shop system. Supplier has access to the supplier portal or dashboard.																							
Success End Condition	Supplier successfully lists and supplies products to the shop's inventory.																							
Failed End Condition	Supplier encounters technical issues preventing them from listing or supplying products.																							
Primary Actor:	Supplier																							
Secondary Actor:																								
Trigger	Supplier will request the system for listing and supplying products.																							
Description / Main Success Scenario	<table><tr><td>Step</td><td colspan="2">Action</td></tr><tr><td>1</td><td colspan="2">Signs in to system with credentials.</td></tr><tr><td>2</td><td colspan="2">Two options to choose from: add new products and update existing products</td></tr><tr><td>3</td><td colspan="2"><table><tr><td>Step</td><td>Action</td></tr><tr><td>3.1</td><td>Select new medicine</td></tr><tr><td>3.2</td><td>Select update existing medicine</td></tr></table></td></tr><tr><td>4</td><td colspan="2">The system validates the provided information and prompts the</td></tr></table>			Step	Action		1	Signs in to system with credentials.		2	Two options to choose from: add new products and update existing products		3	<table><tr><td>Step</td><td>Action</td></tr><tr><td>3.1</td><td>Select new medicine</td></tr><tr><td>3.2</td><td>Select update existing medicine</td></tr></table>		Step	Action	3.1	Select new medicine	3.2	Select update existing medicine	4	The system validates the provided information and prompts the	
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	<table><tr><td colspan="2">supplier to confirm the product listing.</td></tr><tr><td>Step</td><td>Action</td></tr><tr><td>4.1</td><td>Add medicine’s information</td></tr><tr><td>4.2</td><td>Select medicine’s quantity</td></tr></table>	supplier to confirm the product listing.		Step	Action	4.1	Add medicine’s information	4.2	Select medicine’s quantity	
		supplier to confirm the product listing.								
		Step	Action							
		4.1	Add medicine’s information							
	4.2	Select medicine’s quantity								
5	Click save									
6	“Process successful” will be displayed.									

Alternative Flows	<table><tr><td>Step</td><td>Actions</td></tr><tr><td>3.1.a</td><td>Duplicate medicine entry</td></tr><tr><td></td><td>2.1.a.1 Try different medicine</td></tr><tr><td>4.1.a</td><td>Incorrect information</td></tr><tr><td></td><td>4.1.a.1 Try different medicine</td></tr><tr><td>5.1</td><td>Process not successful</td></tr><tr><td></td><td>5.1.a Try again</td></tr></table>	Step	Actions	3.1.a	Duplicate medicine entry		2.1.a.1 Try different medicine	4.1.a	Incorrect information		4.1.a.1 Try different medicine	5.1	Process not successful		5.1.a Try again
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	5.1	Process not successful													
	5.1.a Try again														

Quality Requirements	<table><tr><td>Step</td><td>Requirements</td></tr><tr><td>1</td><td>The system should accurately display the relevant and up-to-date information about the selected product. (Accuracy)</td></tr><tr><td>2</td><td>The product details page should load quickly and efficiently to provide a seamless user experience. (Performance)</td></tr></table>	Step	Requirements	1	The system should accurately display the relevant and up-to-date information about the selected product. (Accuracy)	2	The product details page should load quickly and efficiently to provide a seamless user experience. (Performance)
	Step	Requirements					
	1	The system should accurately display the relevant and up-to-date information about the selected product. (Accuracy)					
2	The product details page should load quickly and efficiently to provide a seamless user experience. (Performance)						

	3	The product details page should be designed to be user-friendly and visually appealing, allowing customers to find the information they need easily. (User interface)
	4	The system should effectively handle errors, providing informative messages to administrators in case of issues during the supply product process.

Case Description-04: View Medicine Details

Use Case	View Medicine Details	
Goal	The goal of this use case is to provide users with comprehensive and detailed information about a selected product in the online medicine shop system. Users should be able to access product specifications, read reviews, and view ratings to make informed purchasing decisions.	
Precondition	The online medicine shop system is running, and the catalog contains the selected product.	
Success End Condition	Customers can access the detailed information page of the selected product, view all relevant details, and make informed decisions about purchasing the product	
Failed End Condition	The system encounters an error while trying to retrieve and display the product details, preventing users from accessing the information they need.	
Primary Actor:	Customers	
Secondary Actor:		
Trigger	Customers will request a specific product from the product catalog to access its detailed information.	
Description / Main Success Scenario		
	Step	Actions
	1	Search a medicine
	2	View listed medicine
	3	Select a medicine
	4	View medicine
Alternative Flows		
	Step	Actions
	2.1	No medicine found

		2.1.a Try different medicine
	4.1	No details available
		4.1.a Try different medicine
Quality Requirements		
	Step	Requirements
	1	The system should accurately display the relevant and up-to-date information about the selected product. (Accuracy)
	2	The product details page should load quickly and efficiently to provide a seamless user experience. (Performance)
	3	The product details page should be designed to be user-friendly and visually appealing, allowing customers to find the information they need easily. (User interface)
	4	The medicine/product details should be available to customers at all times, ensuring that customers can access the information whenever they need it. (Availability)

Case Description-05: Manage Cart

Use Case	Manage cart	
Goal	The goal of this use case is to enable users, primarily customers, to manage the contents of their shopping cart within the online medicine store system. Users should be able to add, remove, or update quantities of selected medicines or healthcare products, providing flexibility and control over their purchasing decisions.	
Precondition	The online medicine store system is operational, and the user has initiated a session, either as a guest or a registered customer, with items in the shopping cart.	
Success End Condition	Users can successfully manage the contents of their shopping cart by adding, removing, or updating the quantities of selected medicines or healthcare products, reflecting the changes accurately.	
Failed End Condition	The system encounters an error while attempting to update the shopping cart, preventing users from managing the contents effectively.	
Primary Actor:	Customers	
Secondary Actor:		
Trigger	Users will request to shopping cart to add, remove, or update quantities of medicines or healthcare products.	
Description / Main Success Scenario		
	Step	Actions
	1	Users access their shopping cart, displaying the list of medicines or healthcare products added.
	2	Users have the option to add additional medicines or healthcare products to their cart.

	3	Users have the option to update the quantities of medicines or healthcare products already in the cart.
	4	Once satisfied with the cart contents, users can proceed to the checkout process to complete their purchase.
Alternative Flows		
	Step	Actions
	2.1	No products found
		2.1.a Try different medicine
	3.1	Process not successful
		3.1.a Try again
Quality Requirements		
	Step	Requirements
	1	The system should accurately reflect changes made to the shopping cart, including additions, removals, and quantity updates.
	2	Cart management operations should be executed swiftly to provide a seamless user experience.
	3	The cart management interface should be user-friendly and intuitive, facilitating easy navigation and modification.
	4	The cart management functionality should be available to users at all times, allowing them to make changes whenever needed.

Case Description-06: Check out and Payment

Use Case	Check out and Payment	
Goal	The goal of this use case is to facilitate a smooth and secure checkout process for customers in the online medicine shop system. Customers should be able to provide shipping details, select a payment method, and complete the payment to finalize their purchase.	
Precondition	The customer has added one or more products to the shopping cart and is ready to proceed with the checkout process.	
Success End Condition	The customer successfully completes the checkout process, and the order is confirmed. The payment is processed, and the system generates an order confirmation with a unique order ID.	
Failed End Condition	The customer encounters an error during the checkout process, preventing the successful completion of the purchase.	
Primary Actor:	Customer	
Secondary Actor:		
Trigger	Customers will request for checkout and proceed to payment process.	
Description / Main Success Scenario		
	Step	Action
	1	Proceed to checkout page
	2	Provide all information
	3	View total price
	4	Proceed to payment options
	5	Select payment options
	6	Select payment methods.
7	Complete the payment	

	8	Receive receipt email.
Alternative Flows		
	Step	Action
	1.1	Checkout page not loading
		1.1.a Reload page
	2.1	Information valid
		2.1.a Provide information correctly
	5.1	Payment options not visible
		5.1.a Go back to checkout page
	6.1	Payment option is not shown.
		5.1.a Go to checkout page
	8.1	Payment failed
		8.1.a Go back to checkout page
Quality Requirements		
	Step	Requirement
	1	The payment processing should be conducted through a secure and encrypted connection to protect the customer's payment information. (security)
	2	The checkout process should be fast and responsive, minimizing any delays or waiting times. (performance)
	3	The system should handle payment processing and order confirmation accurately and reliably to avoid errors or data discrepancies. (Reliability)
	4	The checkout process should be user-friendly, guiding customers

		through each step clearly and intuitively. (User interface)
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Case Description-07: Paying Method

Use Case	Paying method
Goal	The goal of this use case is to facilitate secure and convenient payment processing for users, primarily customers, within the online medicine store system. Users should be able to choose and complete the payment method of their preference, ensuring a smooth and trustworthy transaction.
Precondition	The online medicine store system is operational, the user has added items to the shopping cart, and the user is ready to proceed with the payment process.
Success End Condition	Users successfully complete the payment process, and the system accurately processes the payment, updating the order status accordingly.
Failed End Condition	The payment encounters an error, preventing the successful completion of the transaction, or the payment details are invalid.
Primary Actor:	Customer
Secondary Actor:	Verified Authority
Trigger	Users will request for their preferred payment method for checkout.

Description / Main Success Scenario		
	Step	Action
	1	Customer choose their preferred payment method from the available options
	2	Select payment options
	3	Customers provide necessary payment details, including card information or account details, ensuring the accuracy and security of the information.
	4	Authentication of the customer information is checked by external verified authority.
	5	Customers receive confirmation of a successful payment, and the system updates the order status accordingly.
	6	Receive receipt email.
Alternative Flows		
	Step	Action
	1.1	Page not loading
		1.1.a Reload page
	2.1	Payment options not visible
		2.1.a Try again
	4.1	Information invalid
		4.1.a Choose payment option again
	5.1	Payment failed
		5.1.a Try again
Quality Requirements		
	Step	Requirement

	1	The payment process should adhere to industry standards and employ encryption to ensure the confidentiality and integrity of user payment information.
	2	The payment system should be reliable, minimizing the chances of transaction failures and ensuring a smooth payment experience.
	3	The payment interface should be user-friendly, guiding users through the process and providing clear instructions.
	4	The system should seamlessly integrate with external payment gateways, ensuring efficient and accurate payment processing.

Case Description-08: Confirming Order

Use Case	Confirming Order														
Goal	To confirm customer orders accurately and promptly, ensuring that customers receive confirmation of their purchases and have a clear record of their orders.														
Precondition	Customer has added items to their shopping cart. Customer has provided accurate contact information. Customer has initiated the checkout process.														
Success End Condition	Customer receives a detailed order confirmation with the order summary, delivery details, and estimated delivery date.														
Failed End Condition	Customer does not receive a confirmation, or the confirmation is inaccurate or incomplete.														
Primary Actor: Secondary Actor:	Customer, Medicine Shop Owner														
Trigger	Customer will request for "Place Order" after completing the checkout process.														
Description / Main Success Scenario	<table><tr><th>Step</th><th>Action</th></tr><tr><td>1</td><td>Customer reviews the items in their cart and ensure all okay.</td></tr><tr><td>2</td><td>customer selects the desired delivery address from their saved addresses or enters a new address for delivery.</td></tr><tr><td>3</td><td>customer provides payment information</td></tr><tr><td>4</td><td>Confirm the order by click to confirm button.</td></tr><tr><td>5</td><td>Get confirmation notification</td></tr><tr><td>6</td><td>Successfully confirm the order.</td></tr></table>	Step	Action	1	Customer reviews the items in their cart and ensure all okay.	2	customer selects the desired delivery address from their saved addresses or enters a new address for delivery.	3	customer provides payment information	4	Confirm the order by click to confirm button.	5	Get confirmation notification	6	Successfully confirm the order.
Step	Action														
1	Customer reviews the items in their cart and ensure all okay.														
2	customer selects the desired delivery address from their saved addresses or enters a new address for delivery.														
3	customer provides payment information														
4	Confirm the order by click to confirm button.														
5	Get confirmation notification														
6	Successfully confirm the order.														

Alternative Flows		
	Step	Action
	1.1	Something to change
		1.1.a Go back to previous step
	5.1	Doesn't get notification
		5.1.a. Try again.
Quality Requirements		
	Step	Requirement
	1	The payment processing should be conducted through a secure and encrypted connection to protect the customer's payment information. (security)
	2	The checkout process should be fast and responsive, minimizing any delays or waiting times. (performance)
	3	The system should handle payment processing and order confirmation accurately and reliably to avoid errors or data discrepancies. (Reliability)
	4	The checkout process should be user-friendly, guiding customers through each step clearly and intuitively. (User interface)

Case Description-09: View Sales Report

Use Case	View Sales report	
Goal	The goal of this use case is to facilitate secure and convenient payment processing for users, primarily customers, within the online medicine store system. Users should be able to choose and complete the payment method of their preference, ensuring a smooth and trustworthy transaction.	
Precondition	The online medicine store system is operational, and the administrator or authorized user has the necessary permissions to access sales reports.	
Success End Condition	The system generates and presents a comprehensive sales report, providing insights into sales performance, popular products, revenue trends, and other relevant metrics.	
Failed End Condition	The system encounters an error while generating the sales report, preventing administrators from accessing valuable insights into sales performance.	
Primary Actor: Secondary Actor:	Medicine Shop Owner	
Trigger	The owner will request for a sales report to analyze and assess the performance of the online medicine store.	
Description / Main Success Scenario		
	Step	Action
	1	The shop owner accesses the sales reporting module within the dashboard.
	2	The shop owner configures the parameters for the sales report, such as the time period, specific product categories, or regions.

	3	The system processes the configured parameters, including metrics such as total revenue, top-selling medicine, and sales trends.
	4	The system generates a detailed sales report based on the parameters.
	5	The shop owner views and analyzes the generated sales report, gaining insights into the overall performance of the online medicine store.
Alternative Flows		
	Step	Action
	3.1	Insufficient data
		3.1.a Adjust parameters for a more comprehensive report
	4.1	Report not generated
		4.1.a Generate again
Quality Requirements		
	Step	Requirement
	1	The sales report should accurately reflect the sales performance of the online medicine store based on the configured parameters.
	2	The system should generate sales reports efficiently, providing timely insights for strategic decision-making and ensuring a smooth payment experience.
	3	The sales reporting module should allow owner to customize

		the report parameters to meet specific analytical needs.
	4	Access to sales reports and related data should be restricted to authorized personnel, ensuring the security and confidentiality of business information.

Case Description-10: Delivery Process

Use Case	Delivery Process	
Goal	The goal of this use case is to facilitate the smooth and timely delivery of purchased items to customers in the online medicine store system. This includes the process of selecting a delivery address, specifying delivery preferences, and ensuring accurate and reliable delivery tracking.	
Precondition	The customer has successfully completed the purchase and order confirmation process, and the system has updated the order status to "Confirmed."	
Success End Condition	The product delivered to the customer.	
Failed End Condition	The delivery encounters issues such as delays, inaccurate delivery information, or failure to deliver, preventing successful completion of the delivery process.	
Primary Actor:	Customer, Delivery Man	
Secondary Actor:		
Trigger	The customer will request to end the "Order Confirmation" process.	
Description / Main Success Scenario		
	Step	Action
	1	The customer enters the desired delivery address during the checkout process.
	2	The customer have the option to specify delivery preferences, such as delivery time windows or special instructions for the delivery service.
	3	The system initiates the delivery process by communicating with the external delivery service,

		providing them with the necessary order and delivery information.
	4	Delivery man picks up the delivery and sets delivery status in motion.
	5	The customer can track the status of their delivery in real-time through the online medicine store system or a dedicated tracking link provided by the delivery service.
	6	The customer receives the purchased items at the specified delivery address, and the delivery service confirms the successful delivery.
	7	The system updates the order status to "Delivered," marking the successful completion of the delivery process.
Alternative Flows		
	Step	Actions
	6.1	Customer did not receive the delivery
Quality Requirements		6.1.a Report the incident in the system
	Step	Requirement
	1	The delivery process should be timely, ensuring that customers receive their items within the agreed-upon time frame.
	2	The delivery service should accurately follow the specified delivery address and any additional preferences provided by the customer.
	3	The system should provide clear and timely communication to customers

		regarding the status of their delivery, including any delays or issues.
	4	The delivery service should be reliable, minimizing the chances of delivery failures and ensuring a smooth and dependable delivery experience. (reliability)

Case Description-11: Provide Feedback

Use Case	Provide Feedback	
Goal	The goal of this use case is to gather feedback from customers who have completed a purchase in the online medicine store system.	
Precondition	The customer has successfully completed a purchase, and the order status has been updated to "Delivered."	
Success End Condition	Customers provide feedback through the online feedback system, sharing their opinions, suggestions, and ratings to enhance the overall customer experience.	
Failed End Condition	Customers encounter difficulties providing feedback, or the feedback system fails to capture and process the customer's input.	
Primary Actor:	Customer	
Secondary Actor:		
Trigger	Customer will request to provide feedback of the medicine/healthcare products.	
Description / Main Success Scenario		
	Step	Action
	1	The system sends a notification to the customer, informing them that their order has been successfully

		delivered and inviting them to provide feedback.
	2	The customer accesses the online feedback system through a provided link or within their account dashboard.
	3	The customer rates their overall satisfaction with the purchase, product quality, and delivery experience.
	4	Customer has options to write feedback.
	5	The customer submits their feedback through the online system.
	6	The Feedback System processes and stores the customer's feedback for analysis and improvement purposes.
Alternative Flows		
	Step	Actions
	2.1	System error
		2.1.a Try again
	3.1	Decline to provide feedback
		3.1.a.Try again
Quality Requirements		
	Step	Requirement
	1	The feedback system should have a user-friendly interface, making it easy for customers to navigate and provide feedback.
	2	The feedback system should be accessible to customers through various channels, ensuring convenience and encouraging participation

	3	Customer feedback should be stored securely, protecting sensitive information and maintaining customer privacy.
	4	The Feedback System should have the capability to analyze and interpret feedback effectively, allowing the online medicine store to make informed decisions for service improvement.

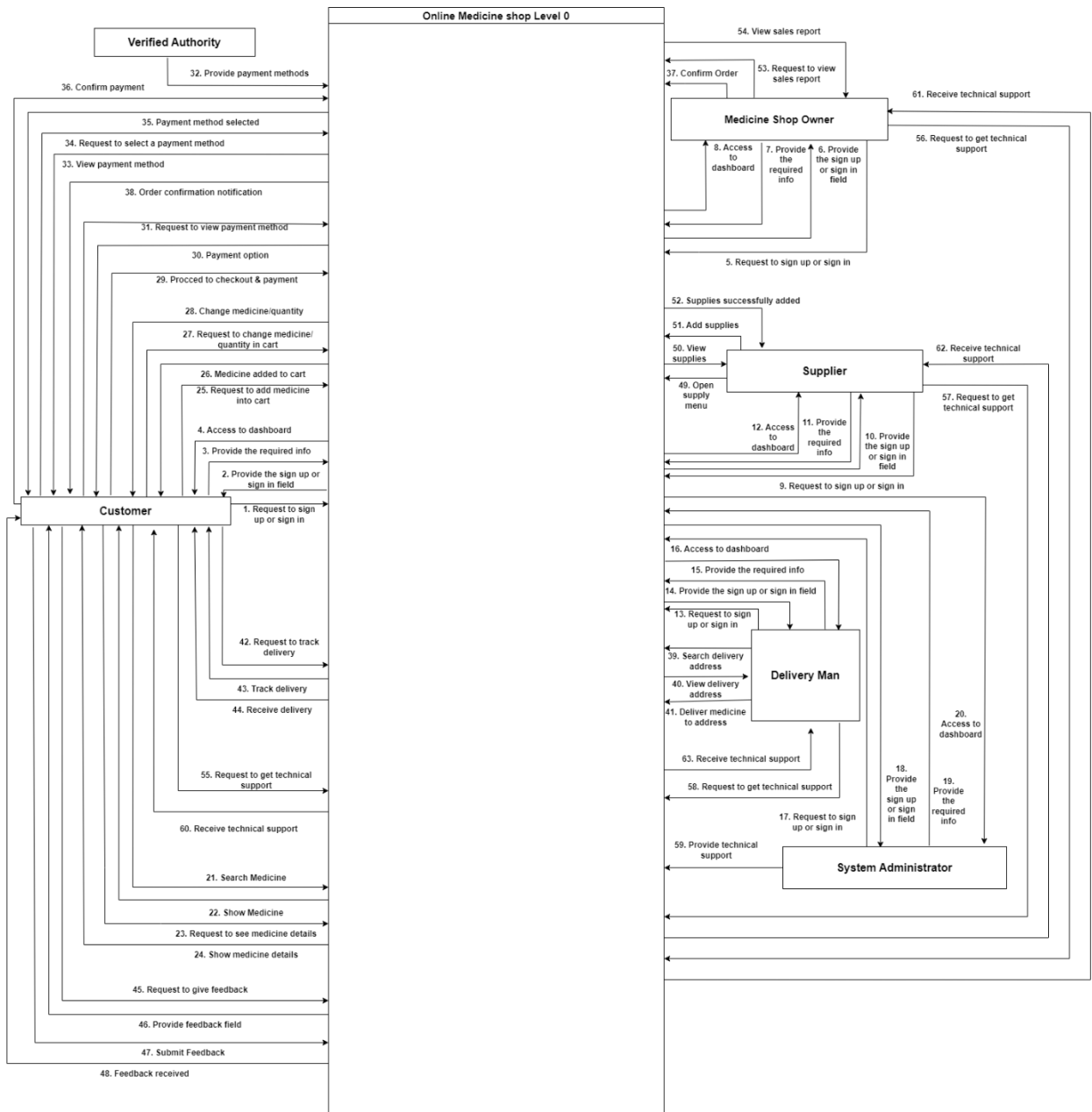
Case Description-12: Get Help

Use Case	Get Help
Goal	To maintain the system.
Precondition	The user needs login with his/her account.
Success End Condition	The problem will be solved.
Failed End Condition	The problem won't be solved.
Primary Actor: Secondary Actor:	Customer, Supplier, Medicine Shop Owner, Delivery Man, System Administrator
Trigger	The user will request to get support.

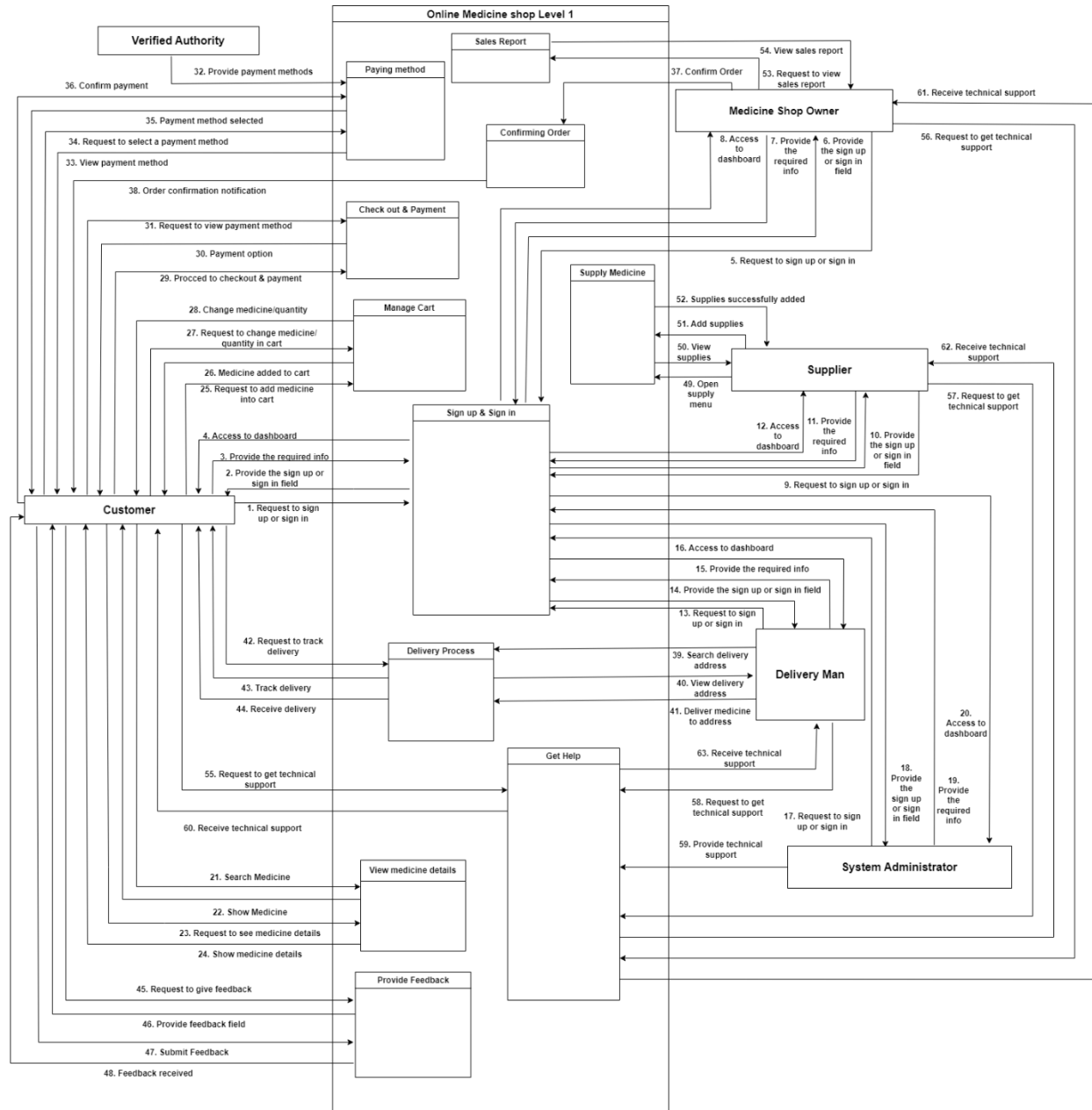
Description/ Main Success Scenario	<table border="1"> <tr> <td>1.</td><td>The user will Request to get support</td></tr> <tr> <td>2.</td><td>It will take the user to a message box to write the problem.</td></tr> <tr> <td>3.</td><td>The user will write down the problem and press enter.</td></tr> <tr> <td>4.</td><td>The problem will be forwarded to the system administrator.</td></tr> <tr> <td>5.</td><td>The system administrator will get a notification of the problem</td></tr> <tr> <td>6.</td><td>The system administrator will then solve the problem</td></tr> </table>	1.	The user will Request to get support	2.	It will take the user to a message box to write the problem.	3.	The user will write down the problem and press enter.	4.	The problem will be forwarded to the system administrator.	5.	The system administrator will get a notification of the problem	6.	The system administrator will then solve the problem
1.	The user will Request to get support												
2.	It will take the user to a message box to write the problem.												
3.	The user will write down the problem and press enter.												
4.	The problem will be forwarded to the system administrator.												
5.	The system administrator will get a notification of the problem												
6.	The system administrator will then solve the problem												
Alternative Flows	<table border="1"> <tr> <td>1.1</td><td>Request Not Respond.</td></tr> <tr> <td></td><td>1.1.a Try again</td></tr> <tr> <td>3.1</td><td>didn't write any problem</td></tr> <tr> <td></td><td>3.1.a The user needs to write the problem</td></tr> </table>	1.1	Request Not Respond.		1.1.a Try again	3.1	didn't write any problem		3.1.a The user needs to write the problem				
1.1	Request Not Respond.												
	1.1.a Try again												
3.1	didn't write any problem												
	3.1.a The user needs to write the problem												
Quality Requirements	The user will complete the process within 3 minutes.												

Data Flow Diagram

Online Medicine Shop Data Flow Diagram level 0

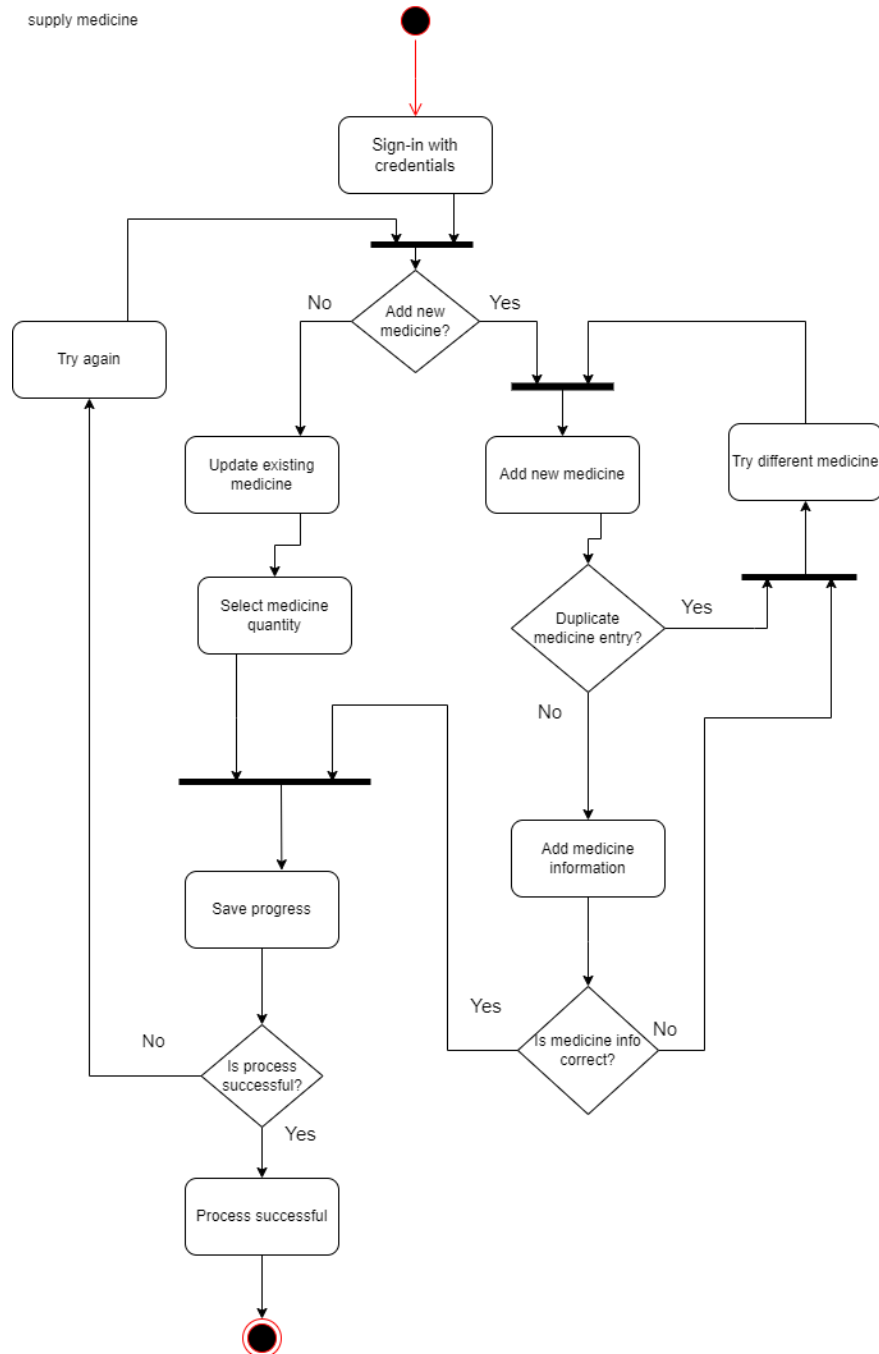


Online Medicine Shop Data Flow Diagram level 1

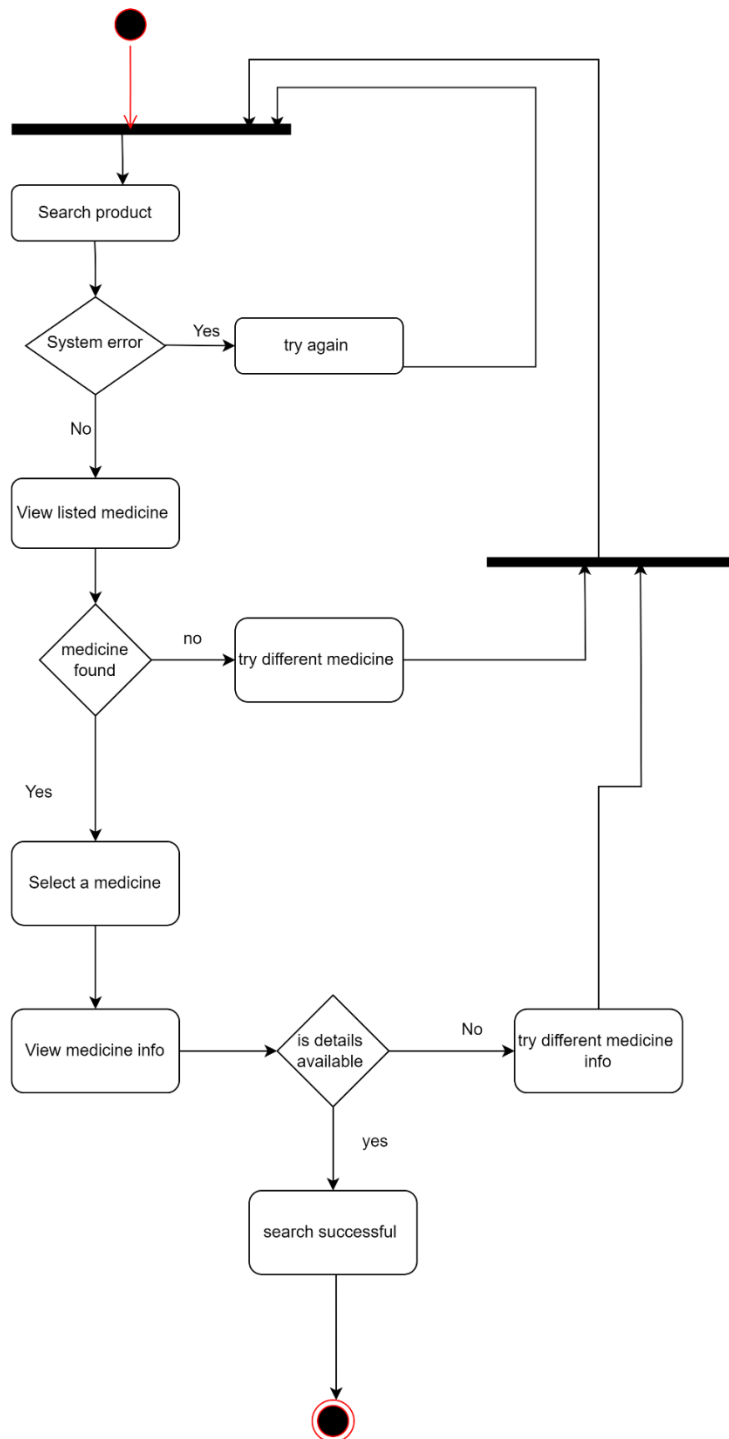


Activity Diagram

Activity Diagram-01: Supply Medicine

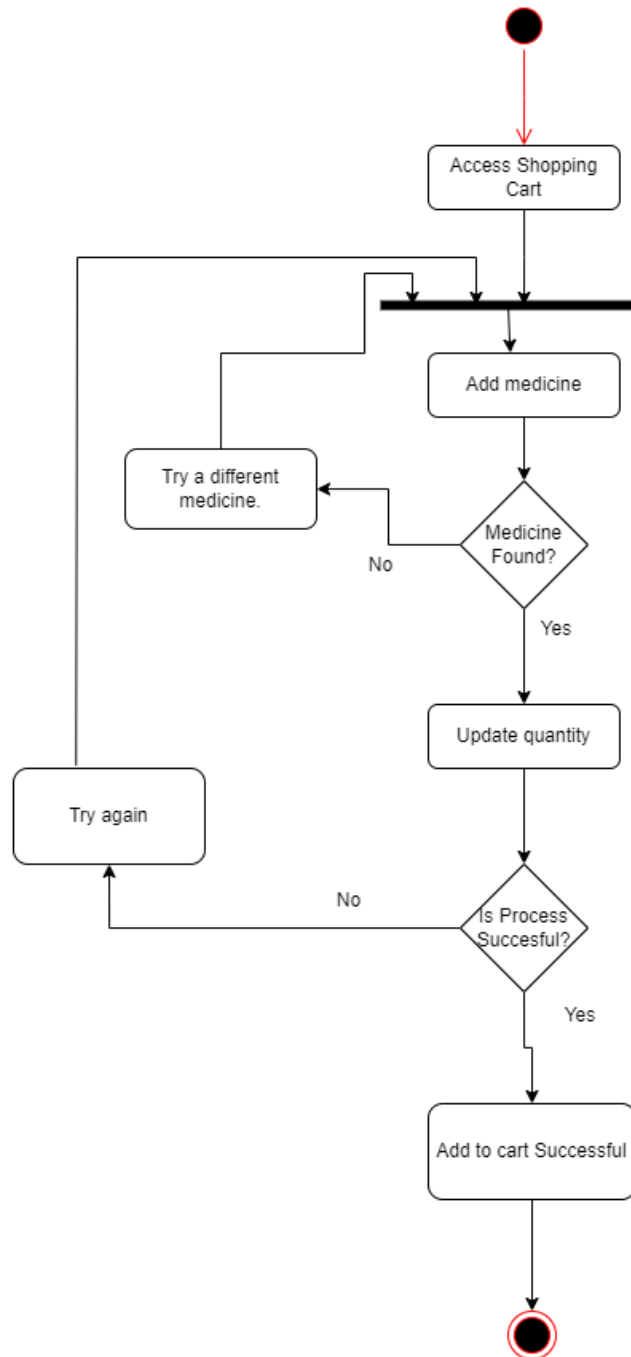


Activity Diagram-02: View Medicine Details

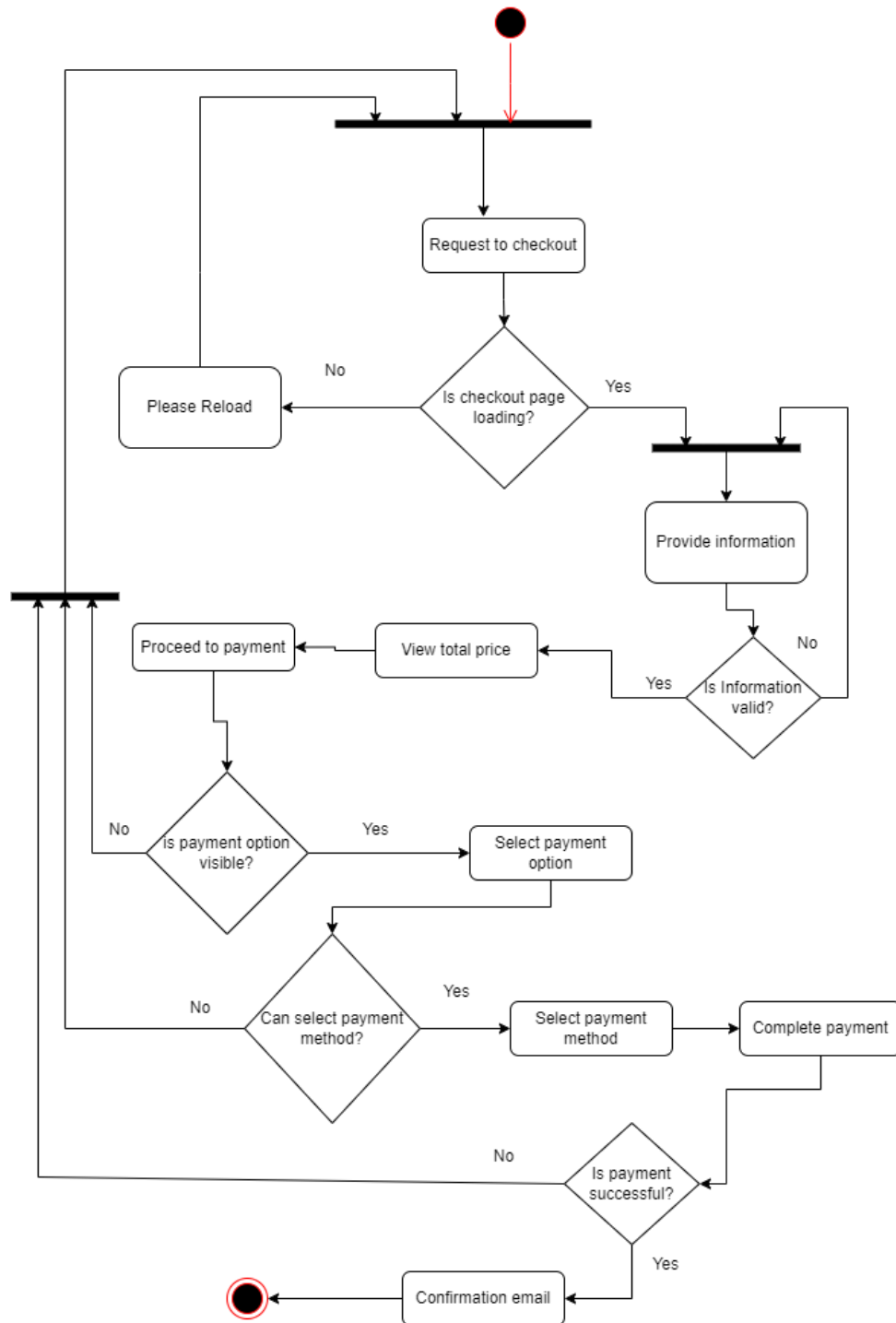


Activity Diagram-03: Manage Cart

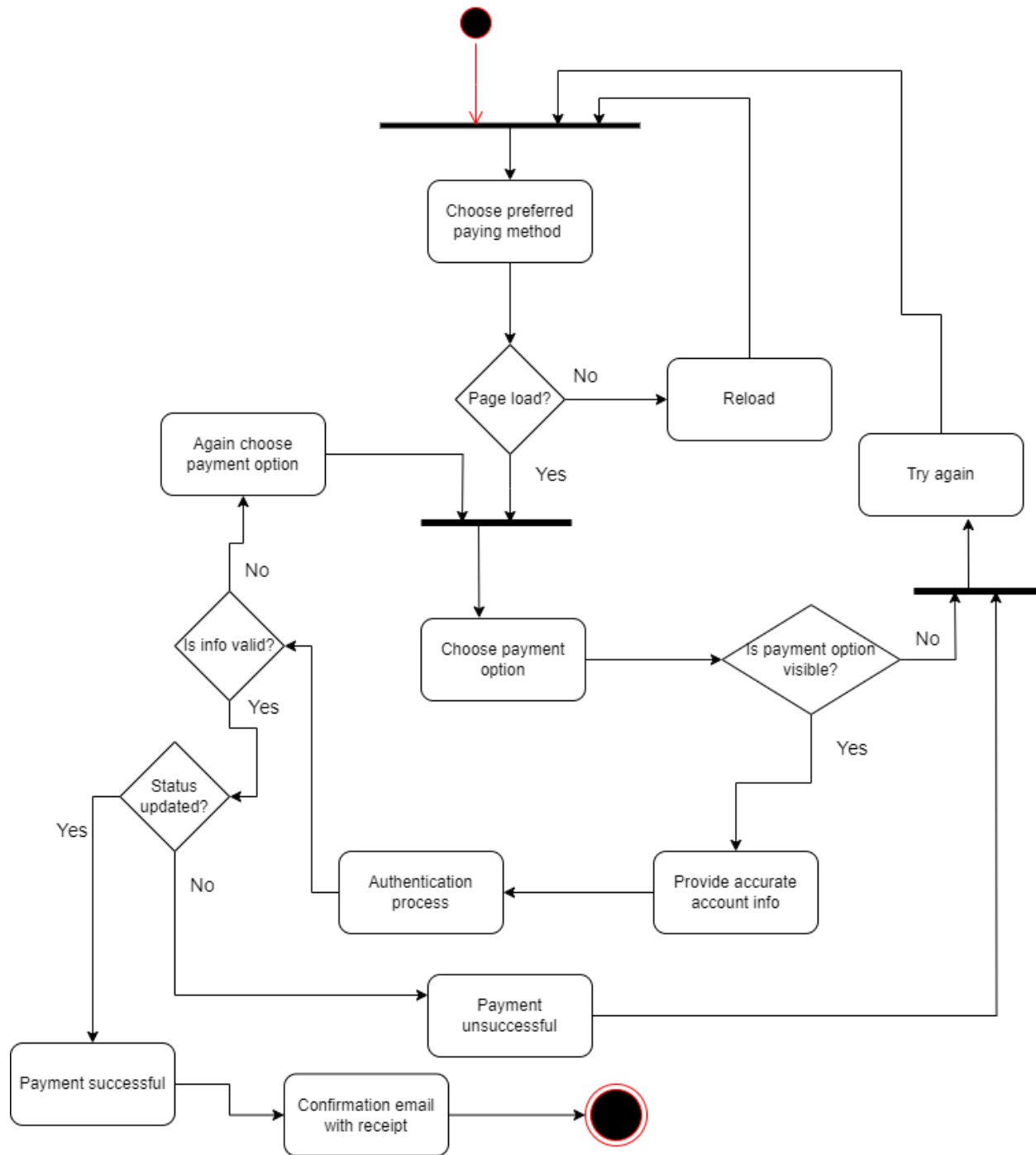
manage cart



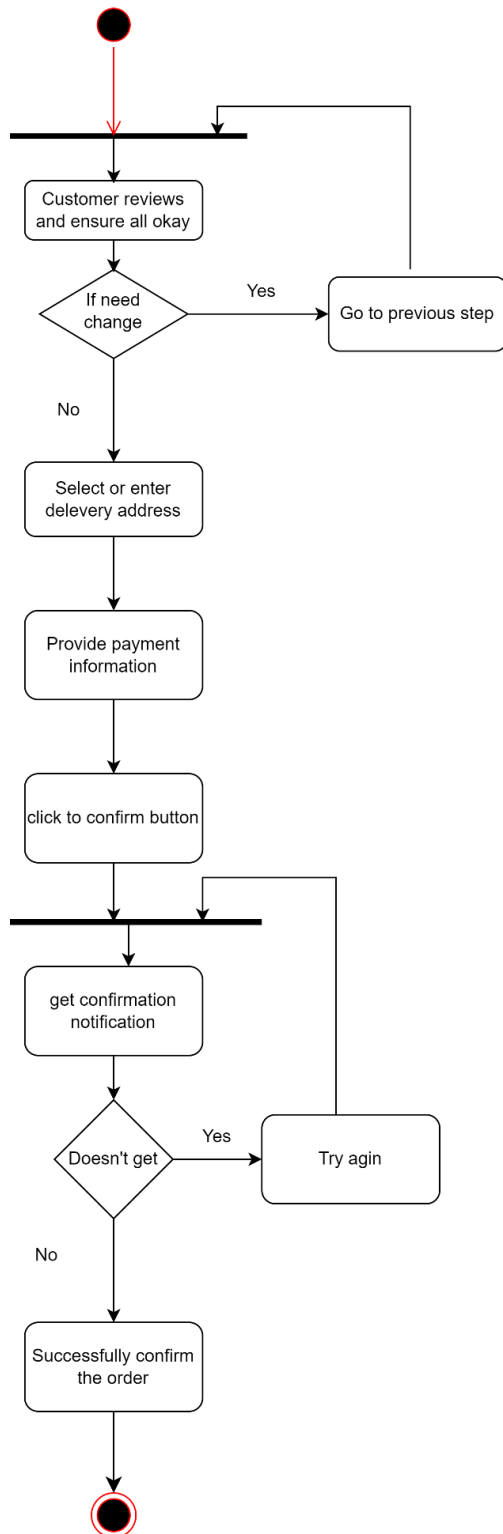
Activity Diagram-04: Check Out and Payment



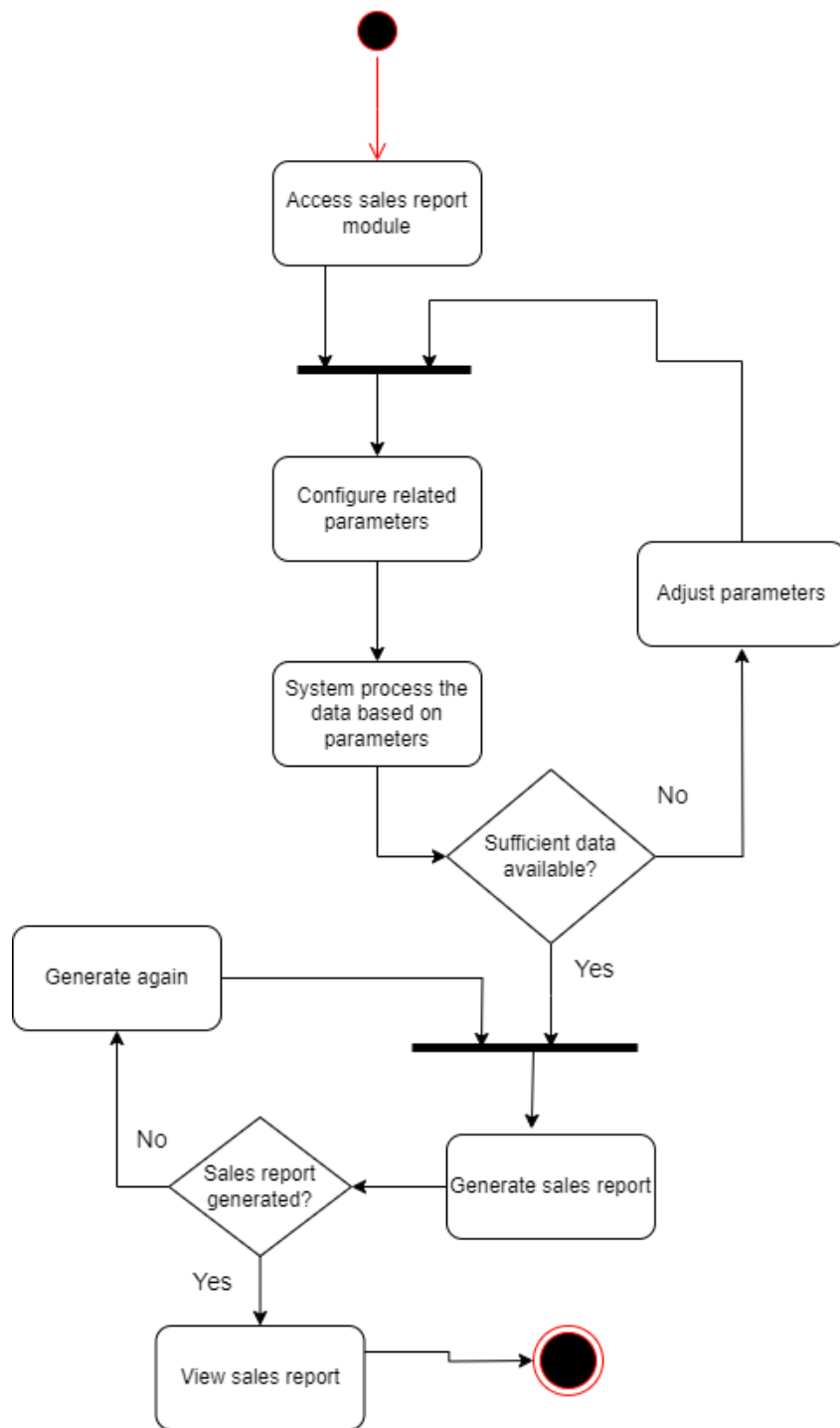
Activity Diagram-05: Paying Method



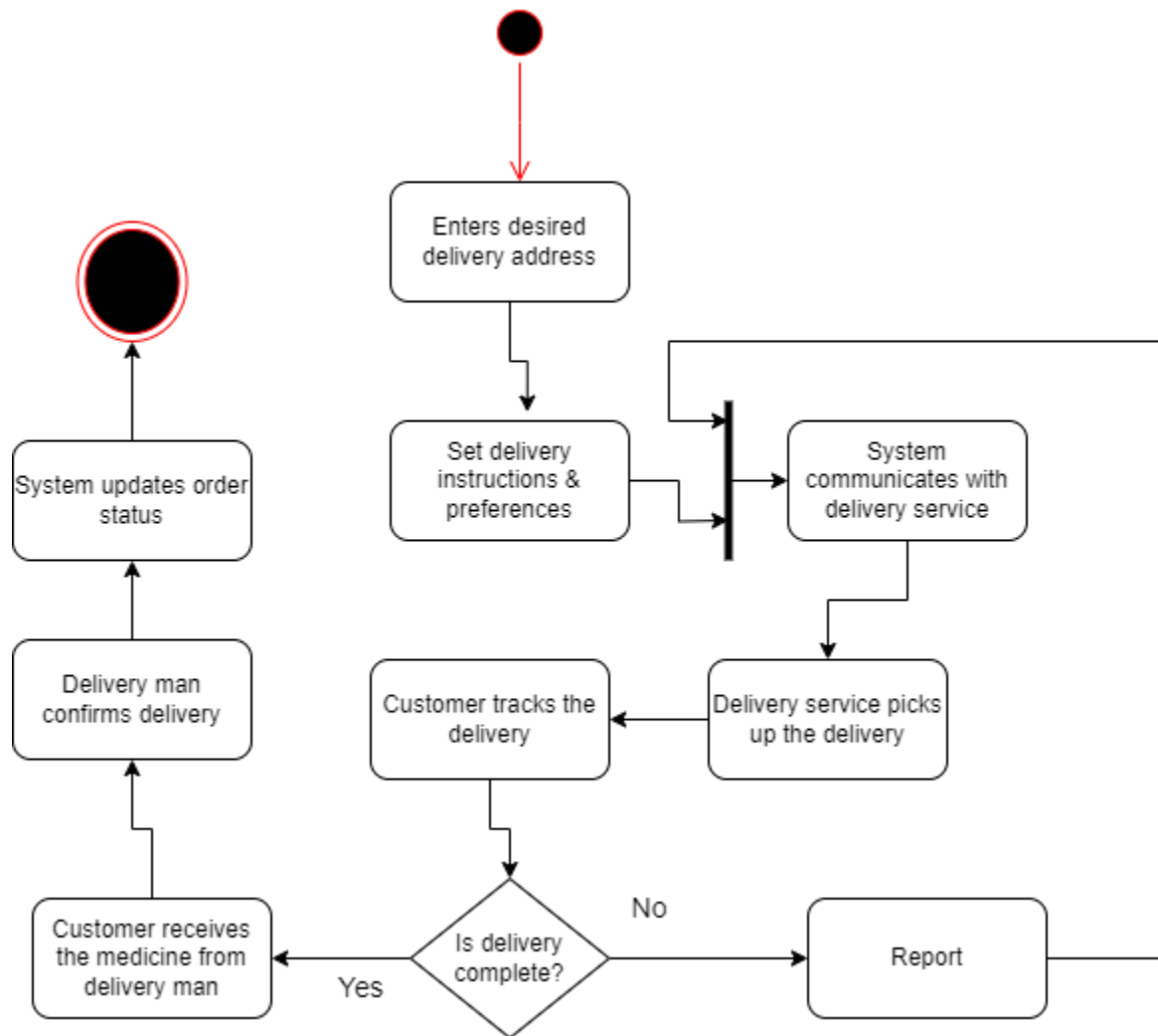
Activity Diagram-06: Confirming Order



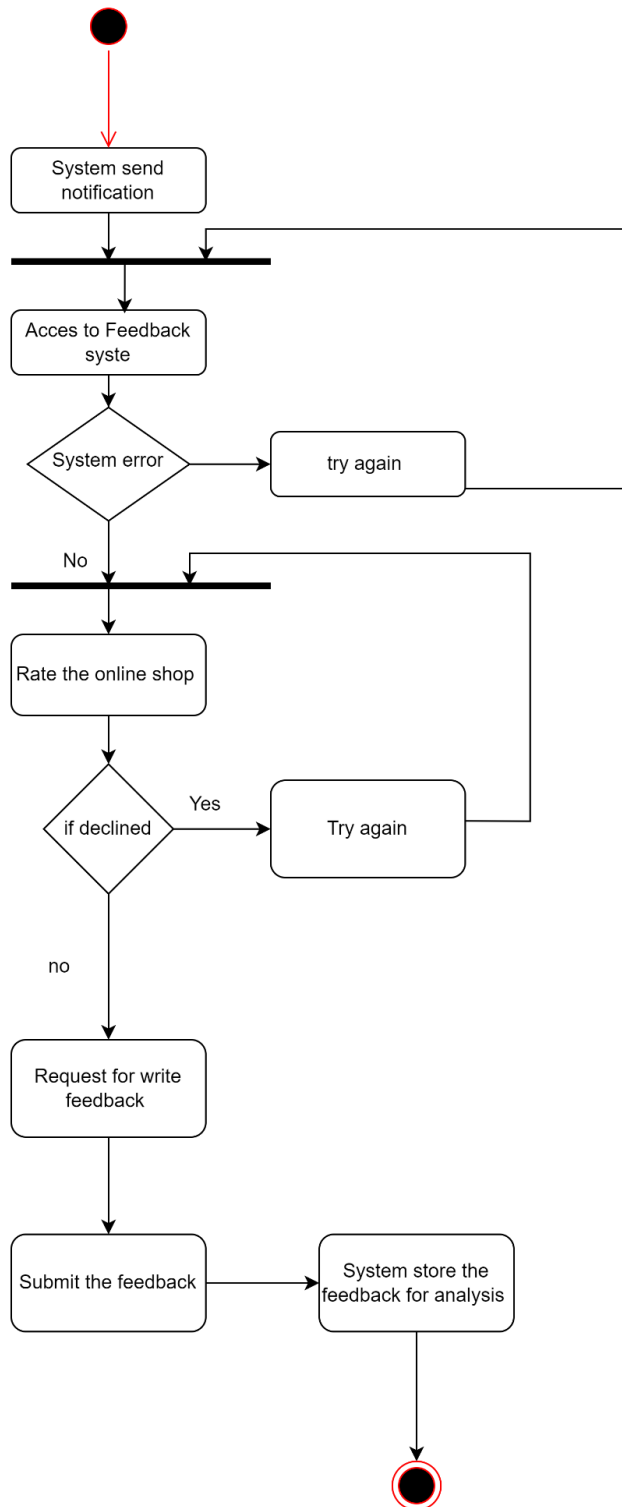
Activity Diagram-07: View Sales Report



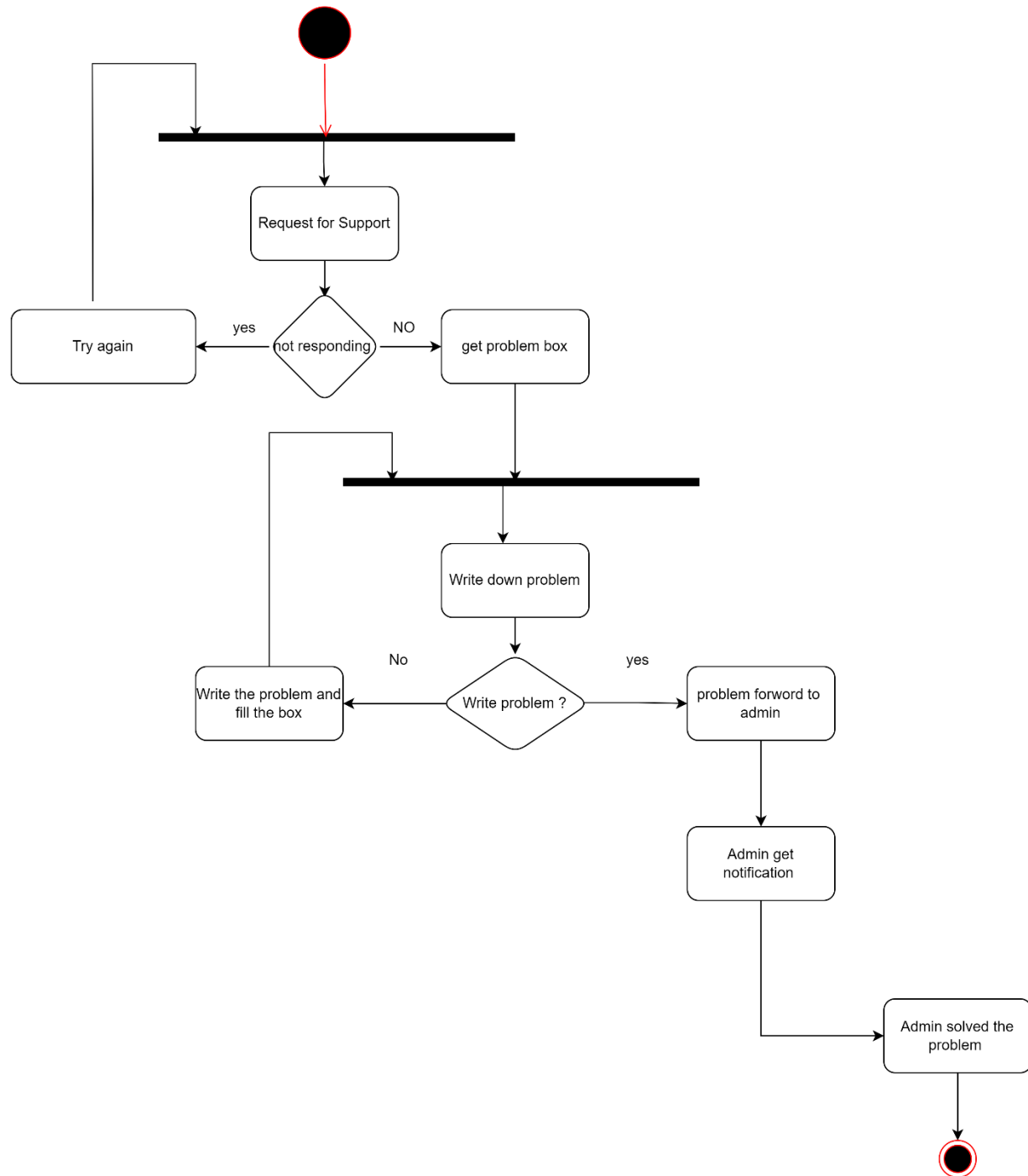
Activity Diagram-08: Delivery Process



Activity Diagram-09: Provide Feedback

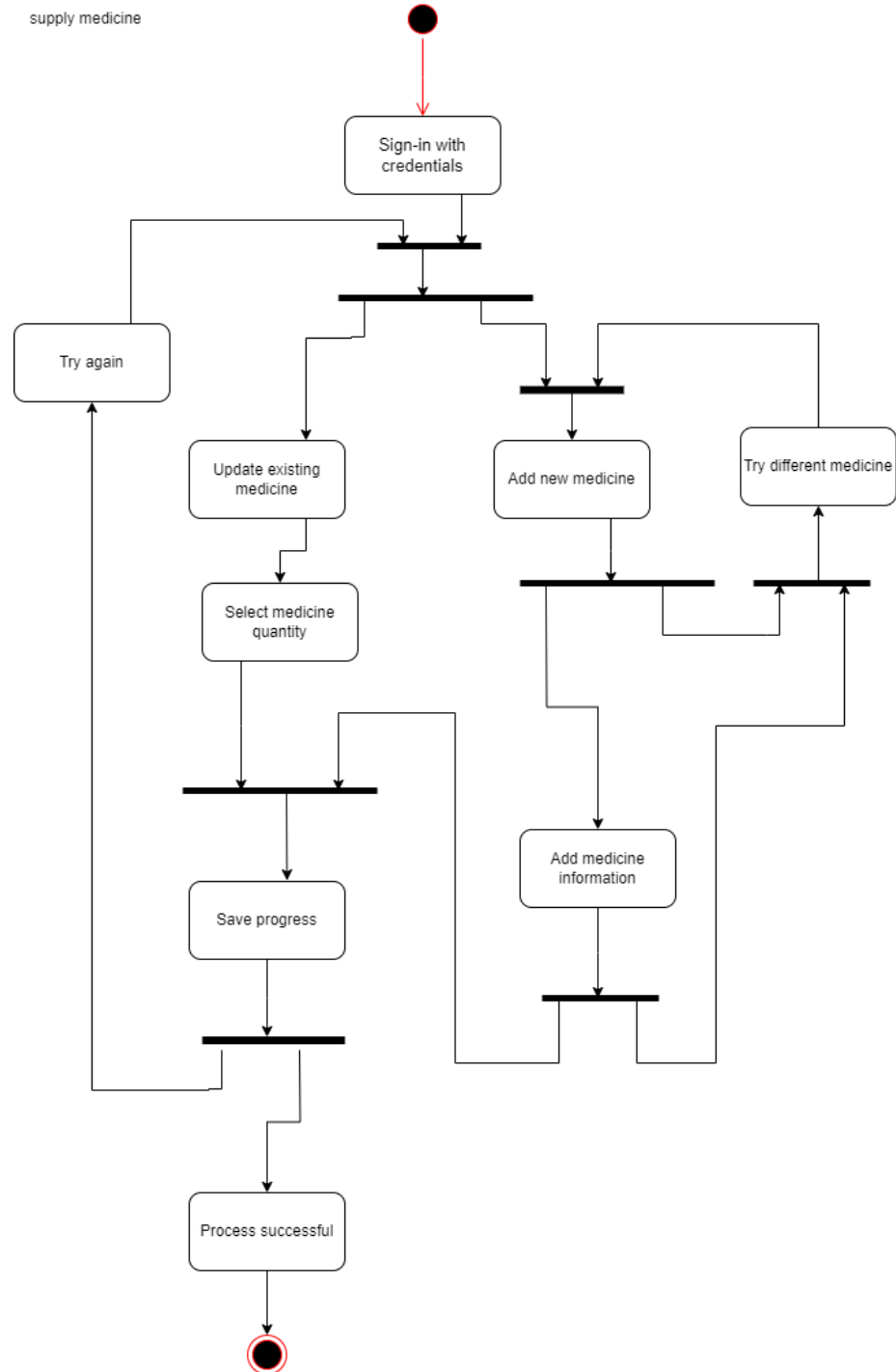


Activity Diagram-10: Get Help

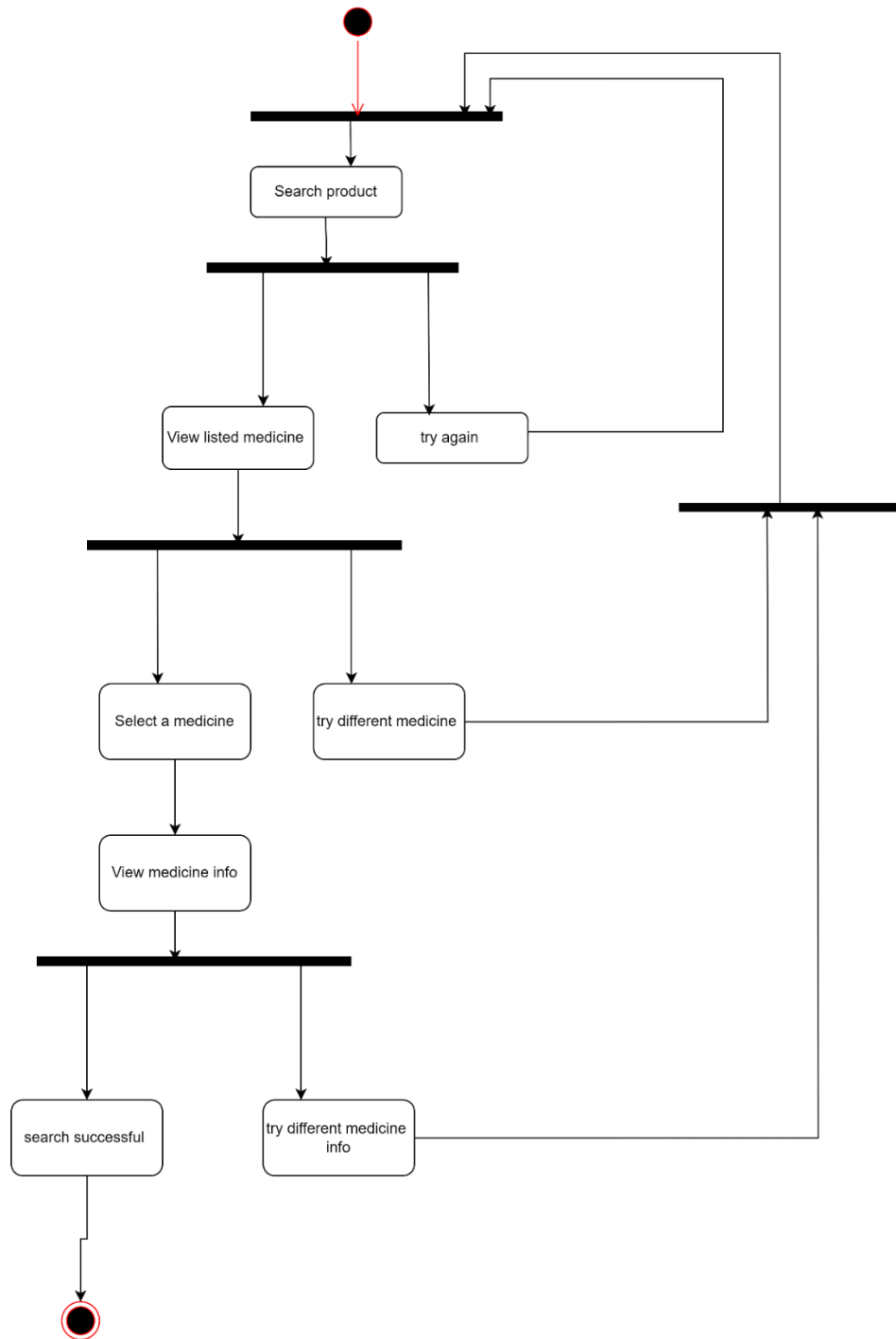


State Diagram

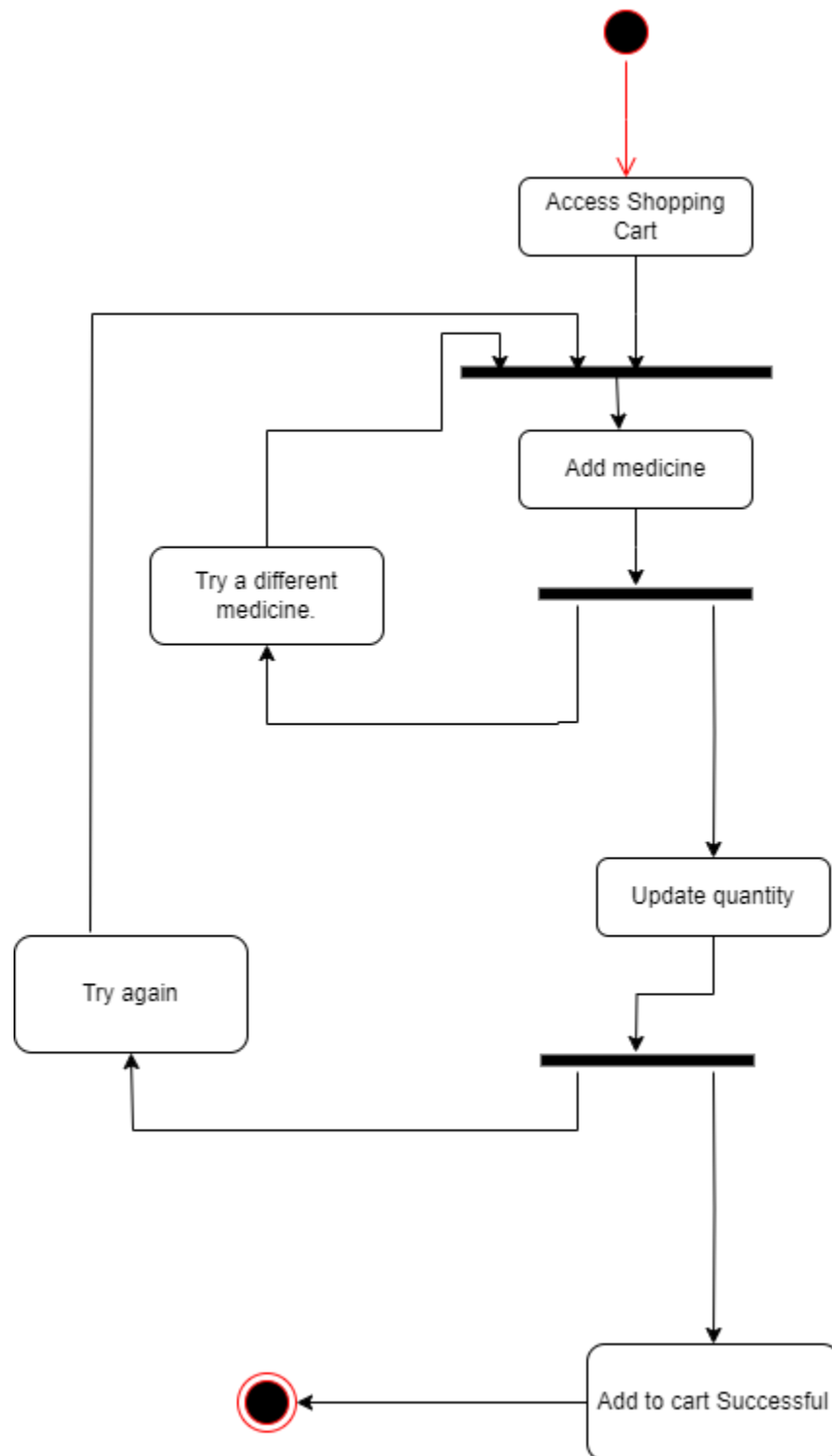
State Diagram-01: Supply Medicine



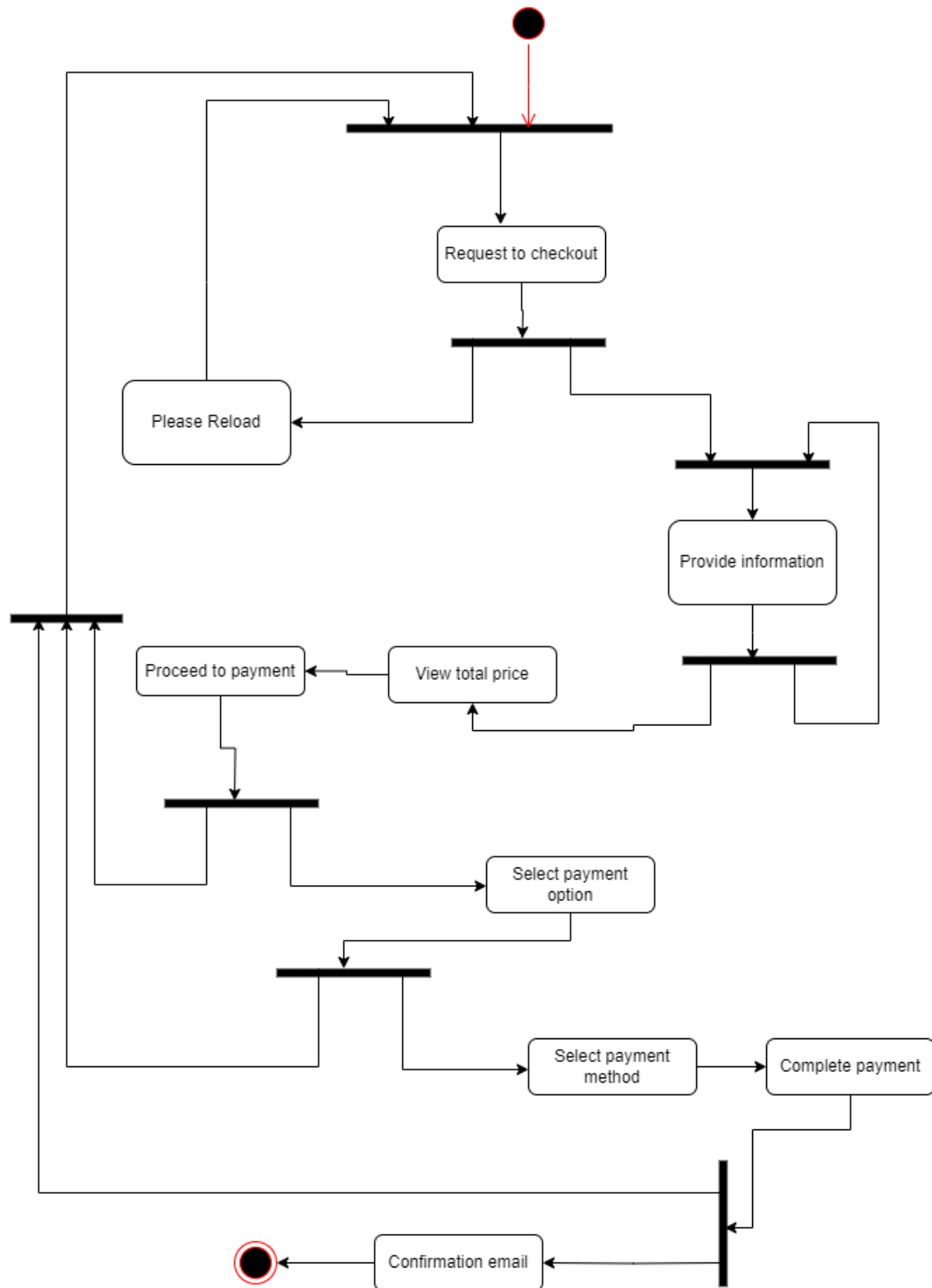
State Diagram-02: View Medicine Details



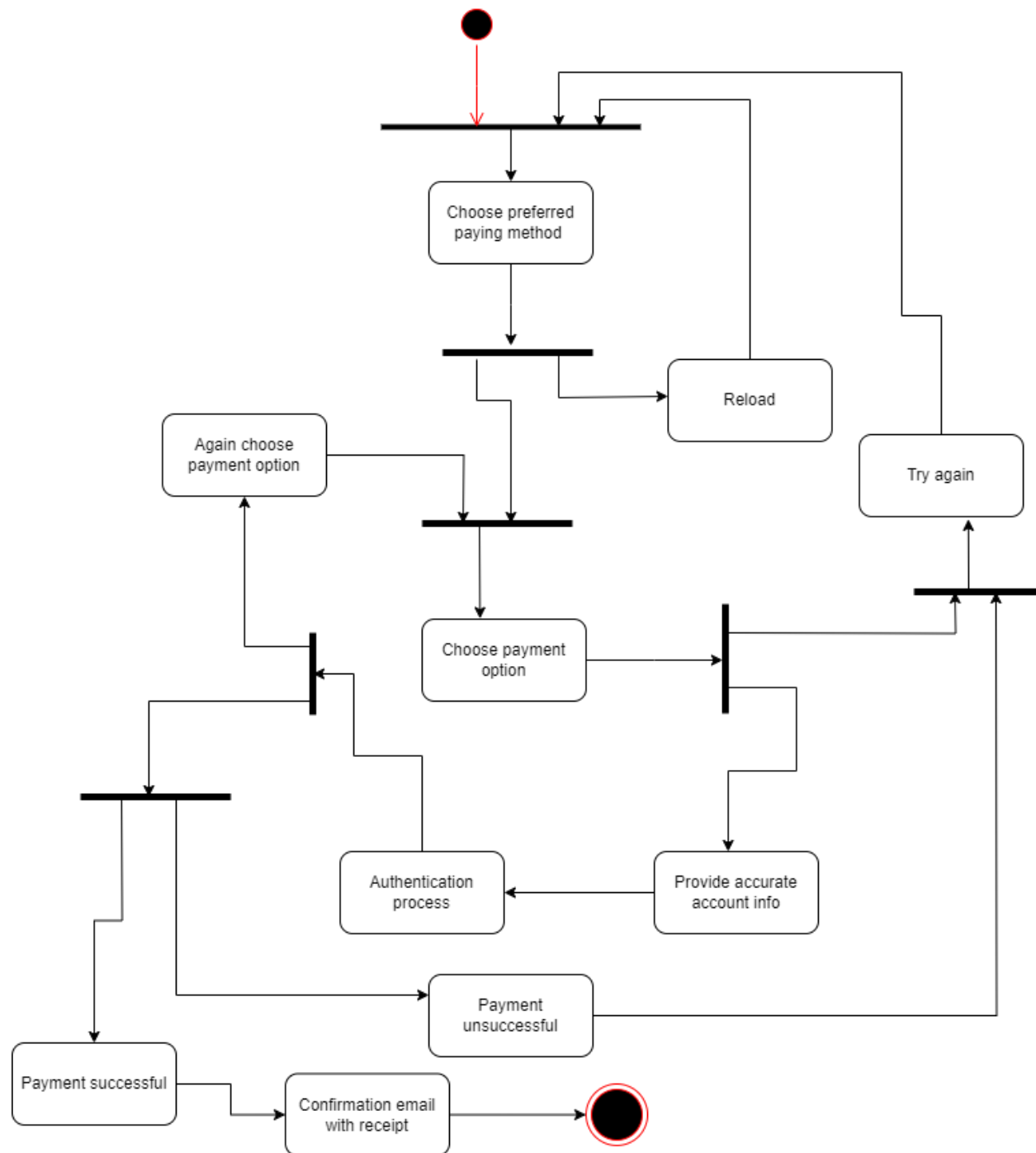
State Diagram-03: Manage Cart



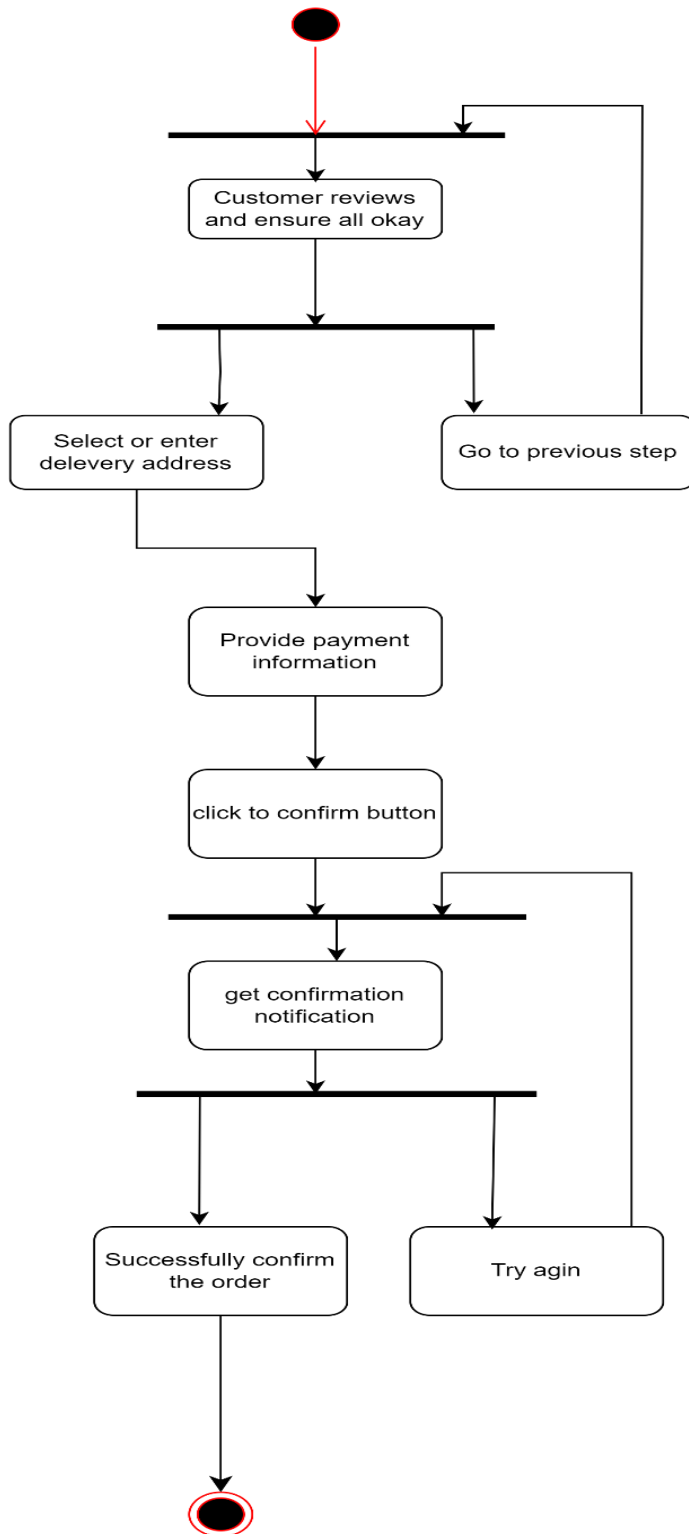
State Diagram-04: Check Out and Payment



State Diagram-05: Paying Method

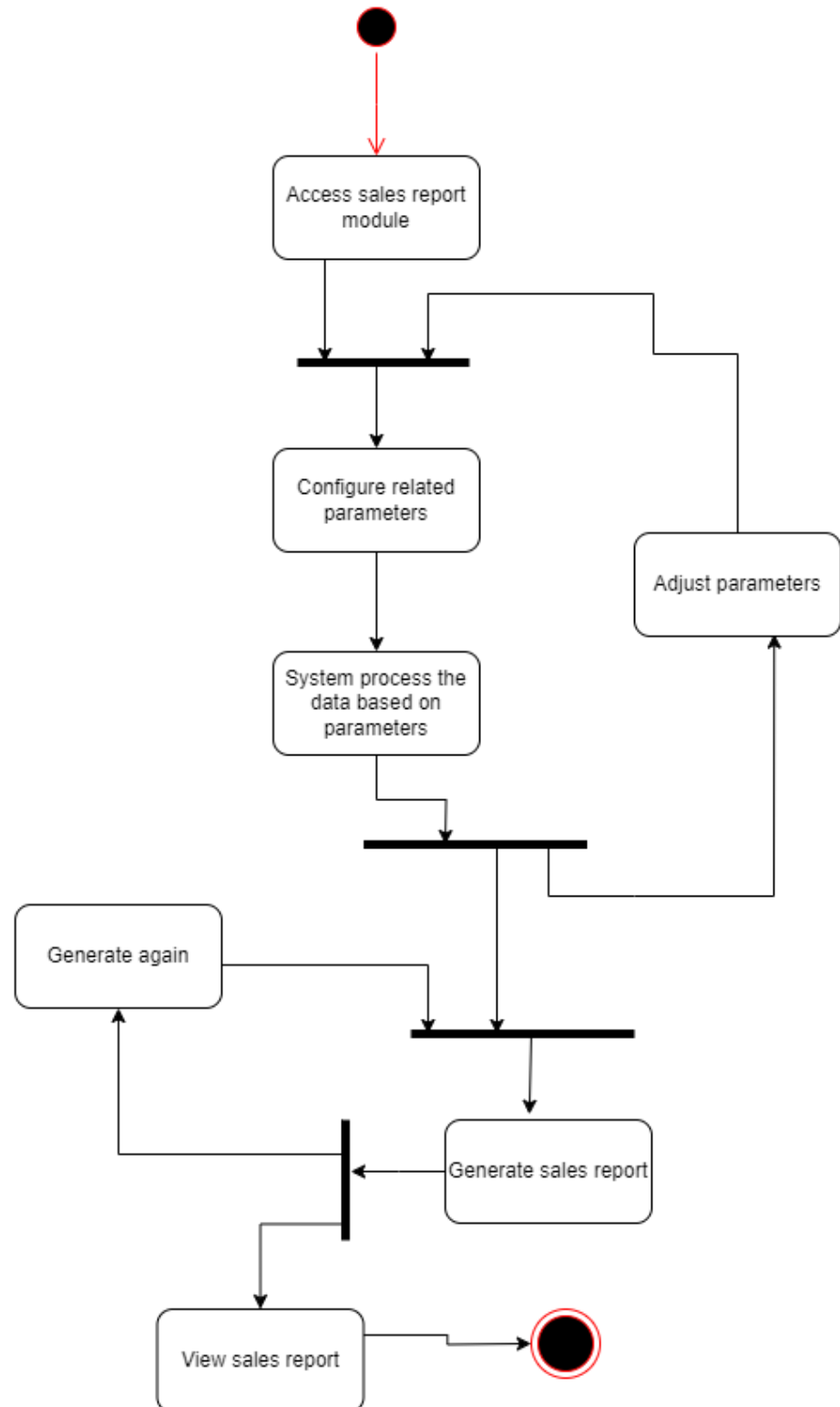


State Diagram-06: Confirming Order



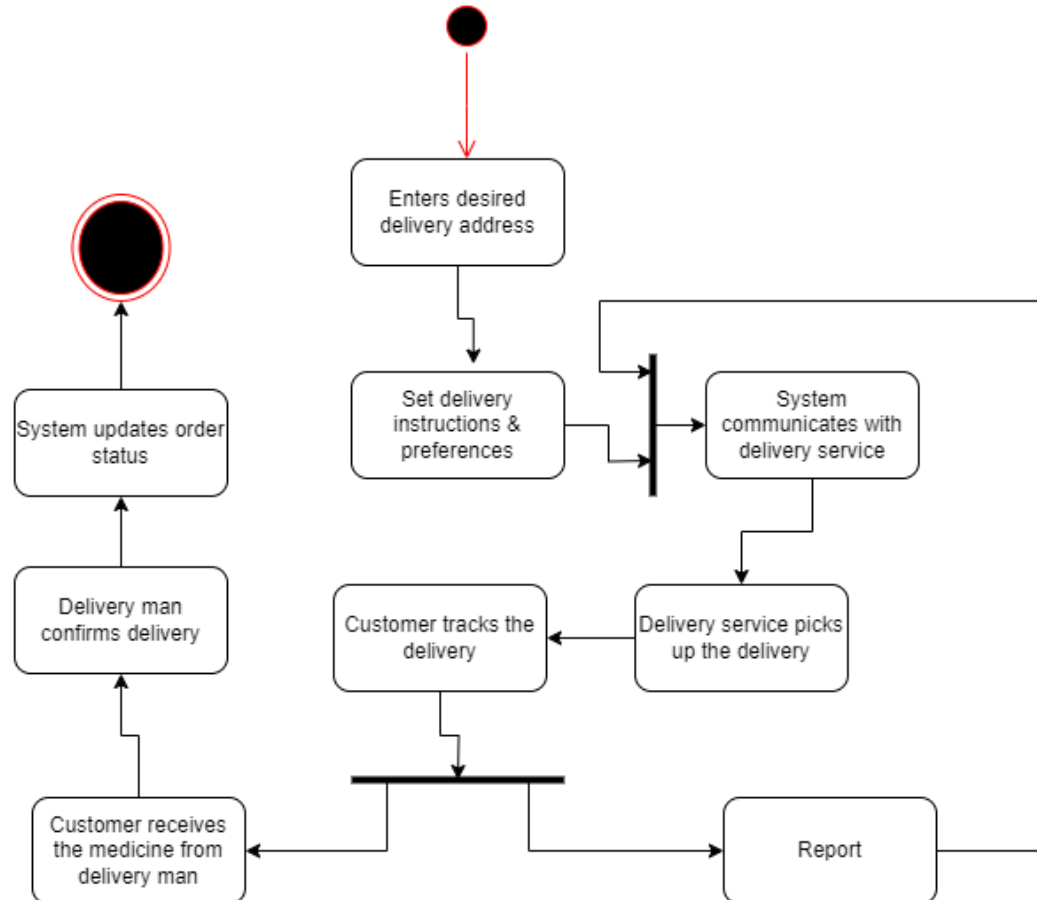
State Diagram-07: View Sales Report

View sales report

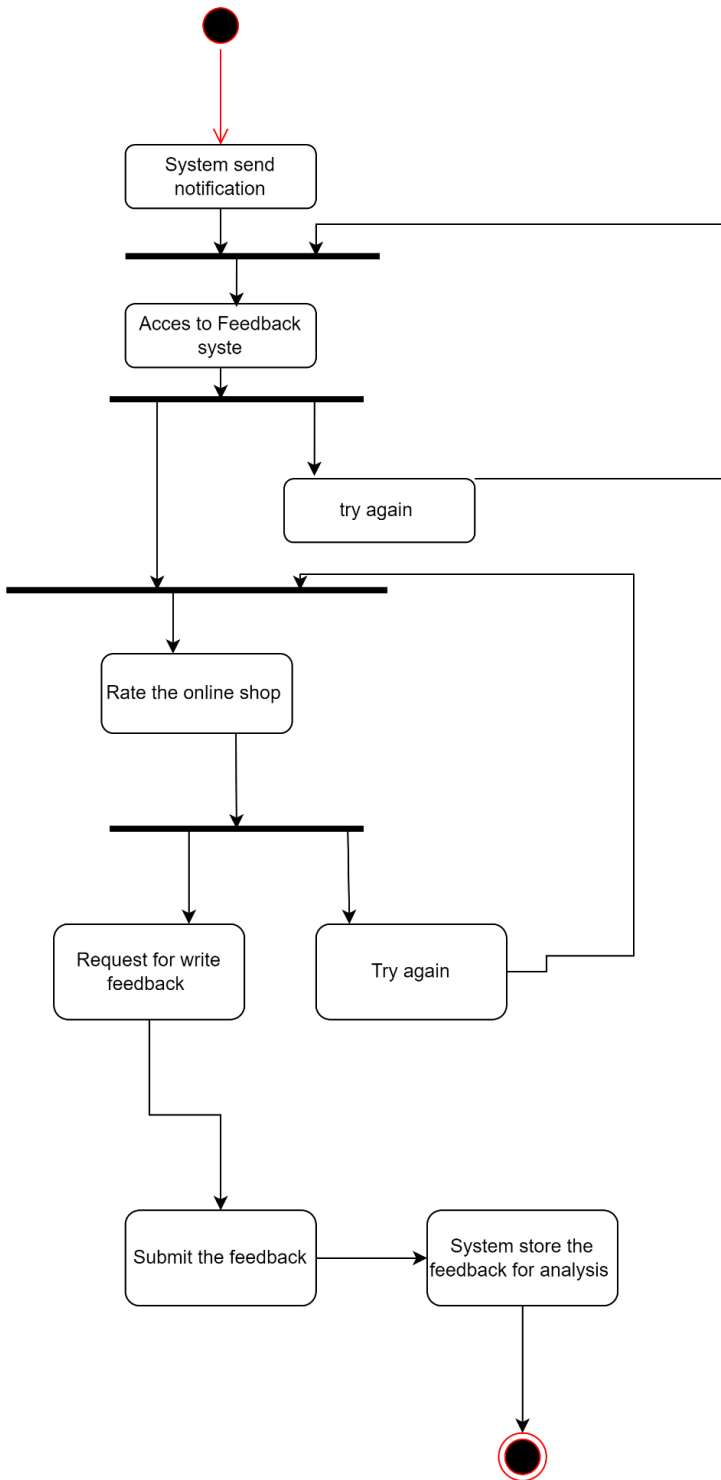


State Diagram-08: Delivery Process

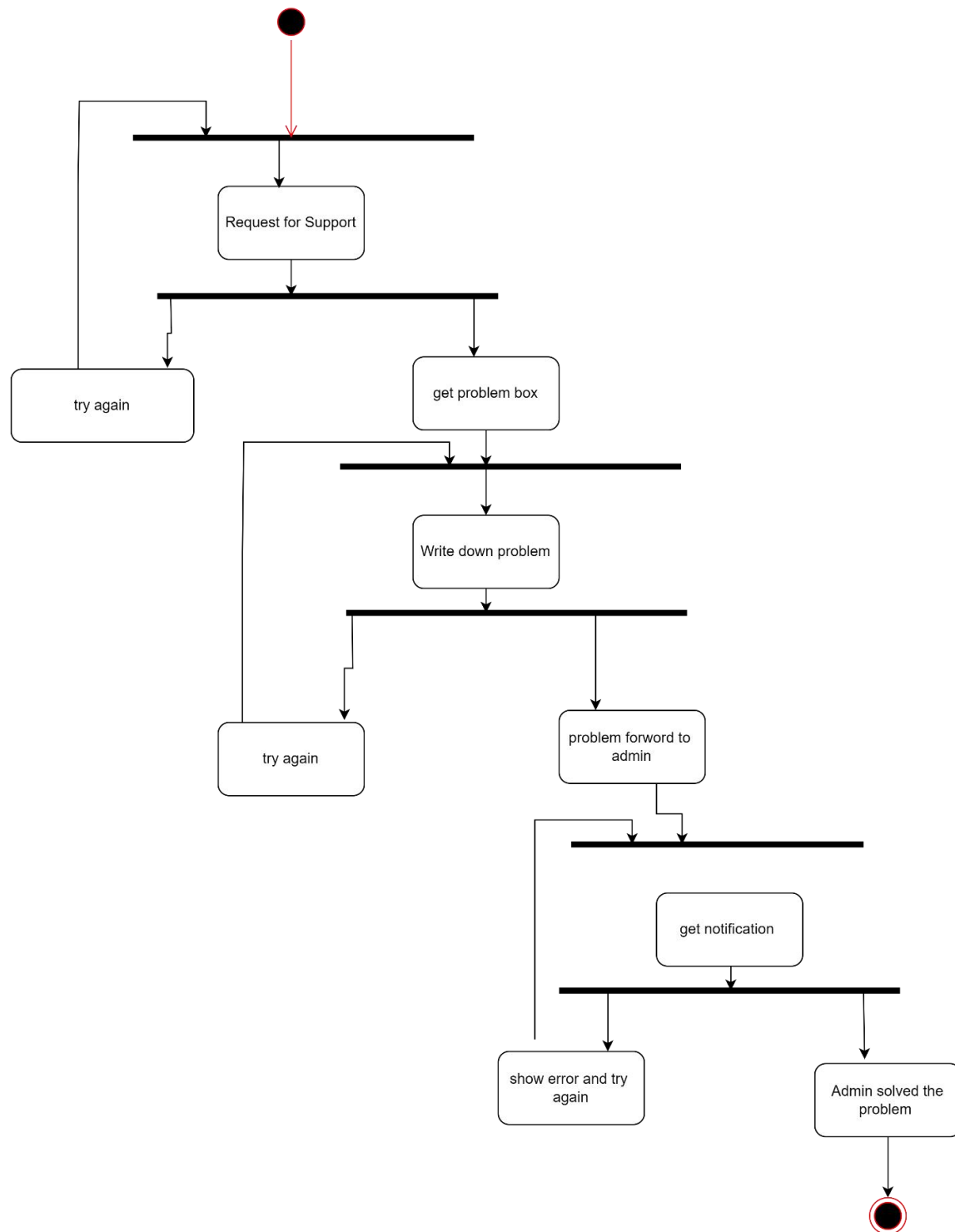
Delivery process



State Diagram-09: Provide Feedback



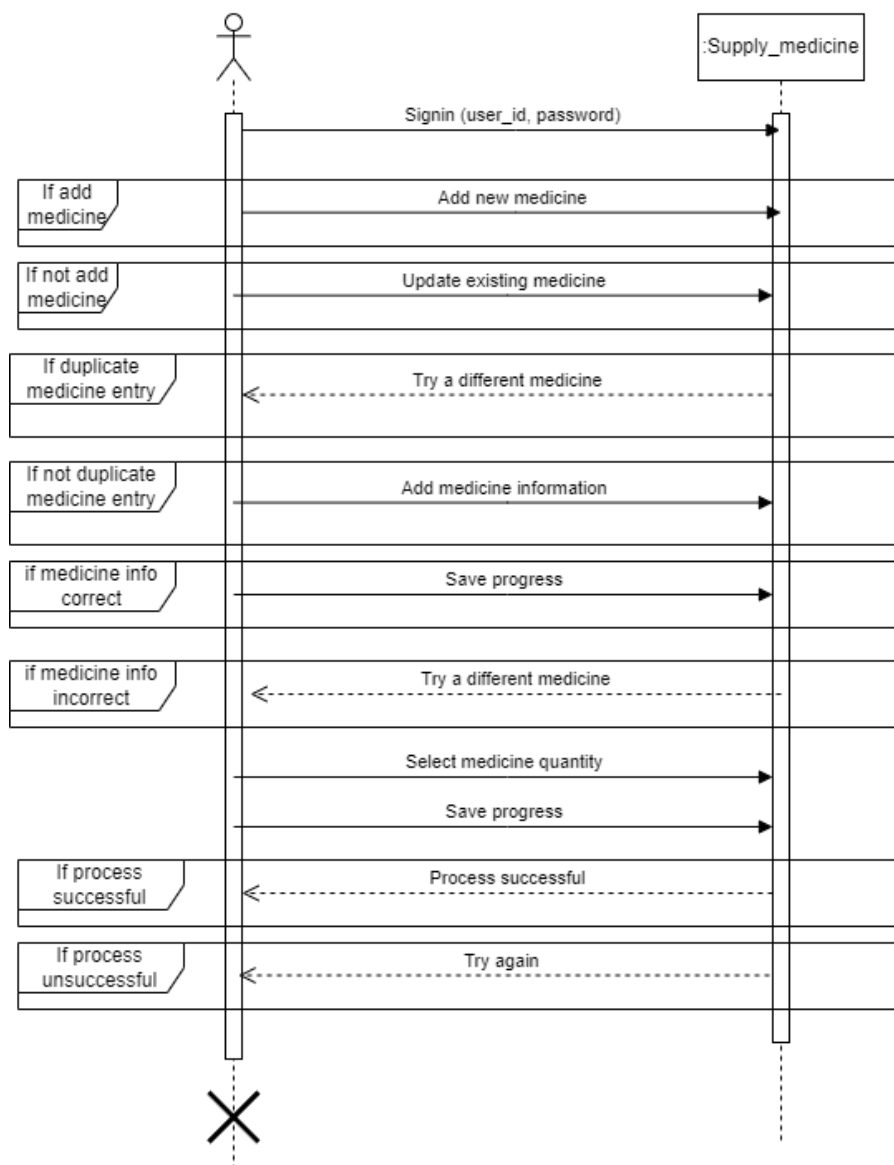
State Diagram-10: Get Help



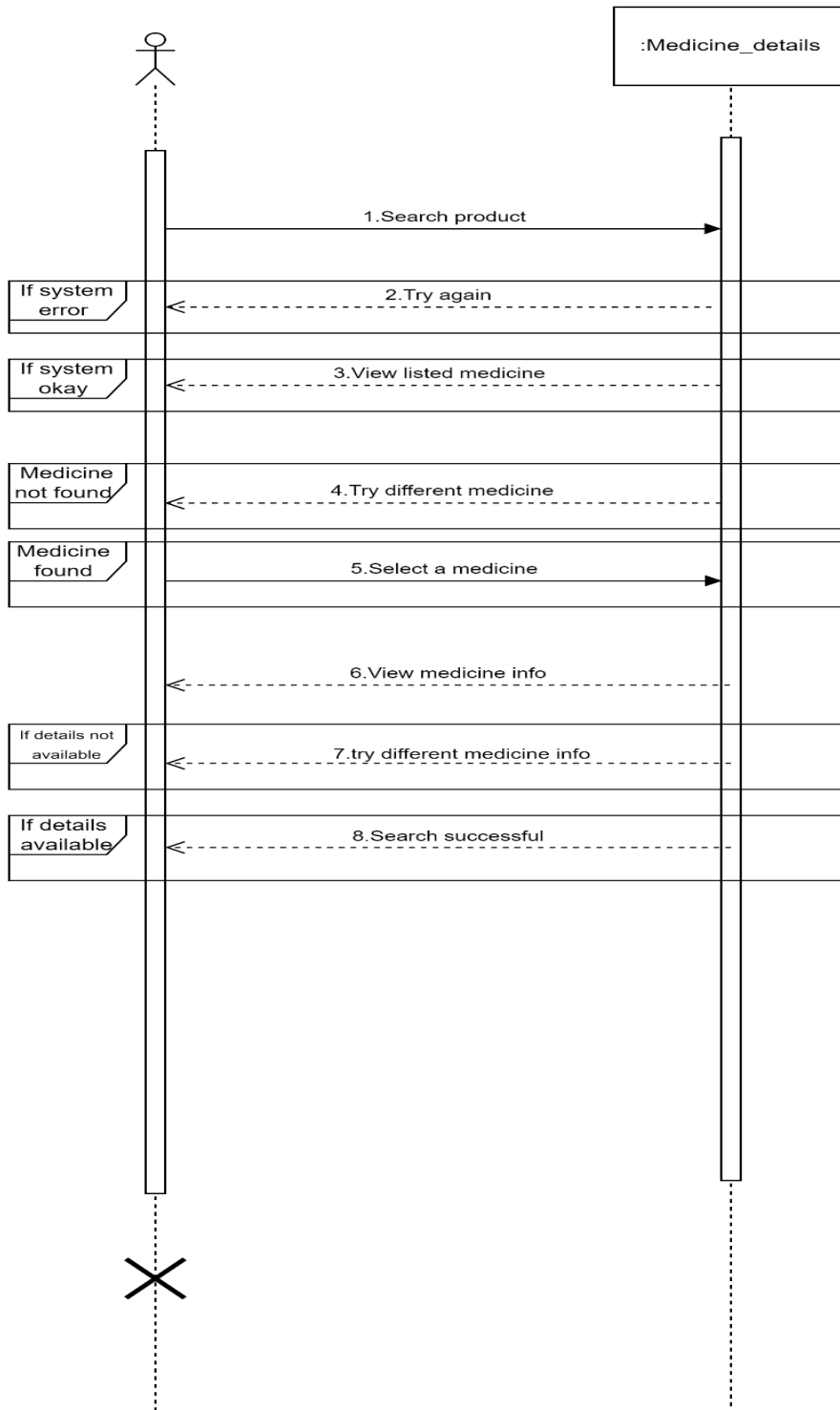
Sequence Diagram

Sequence Diagram-01: Supply Medicine

supply medicine

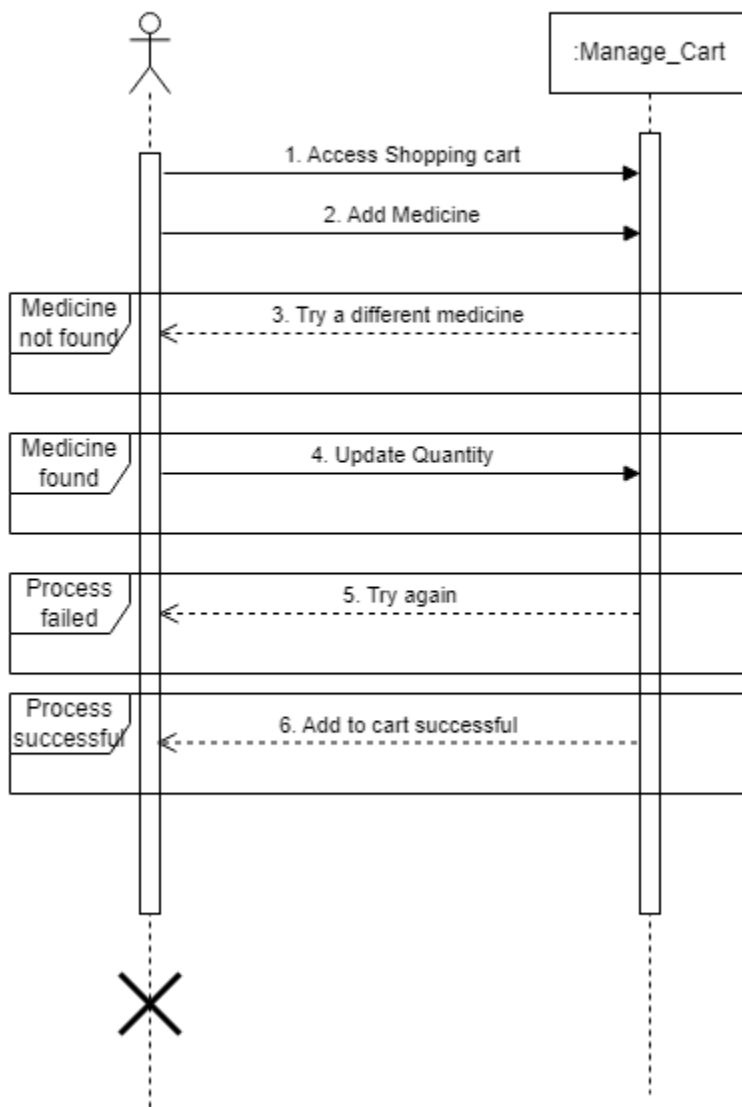


Sequence Diagram-02: View Medicine Details

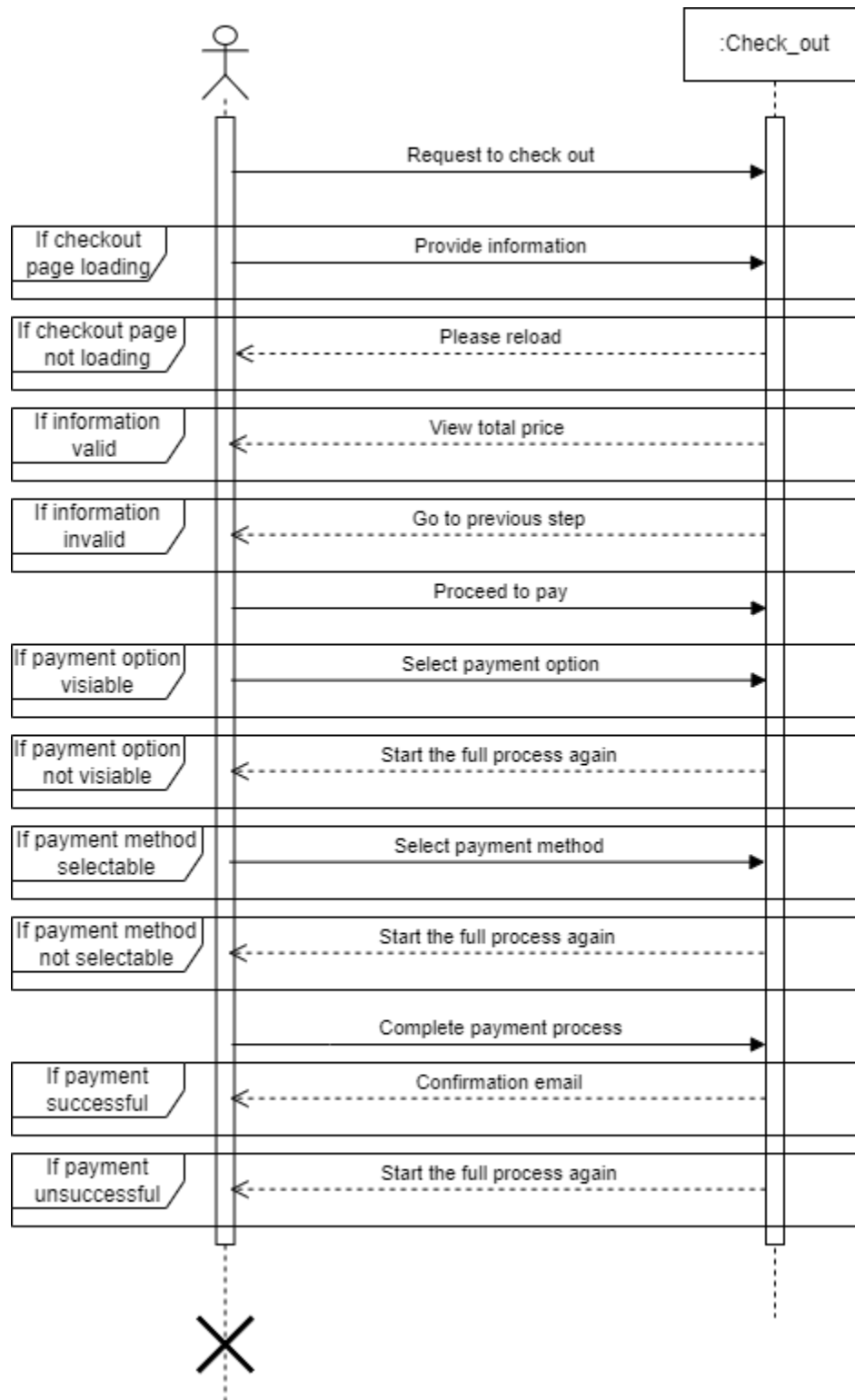


Sequence Diagram-03: Manage Cart

Sequence diagram of "Manage cart"

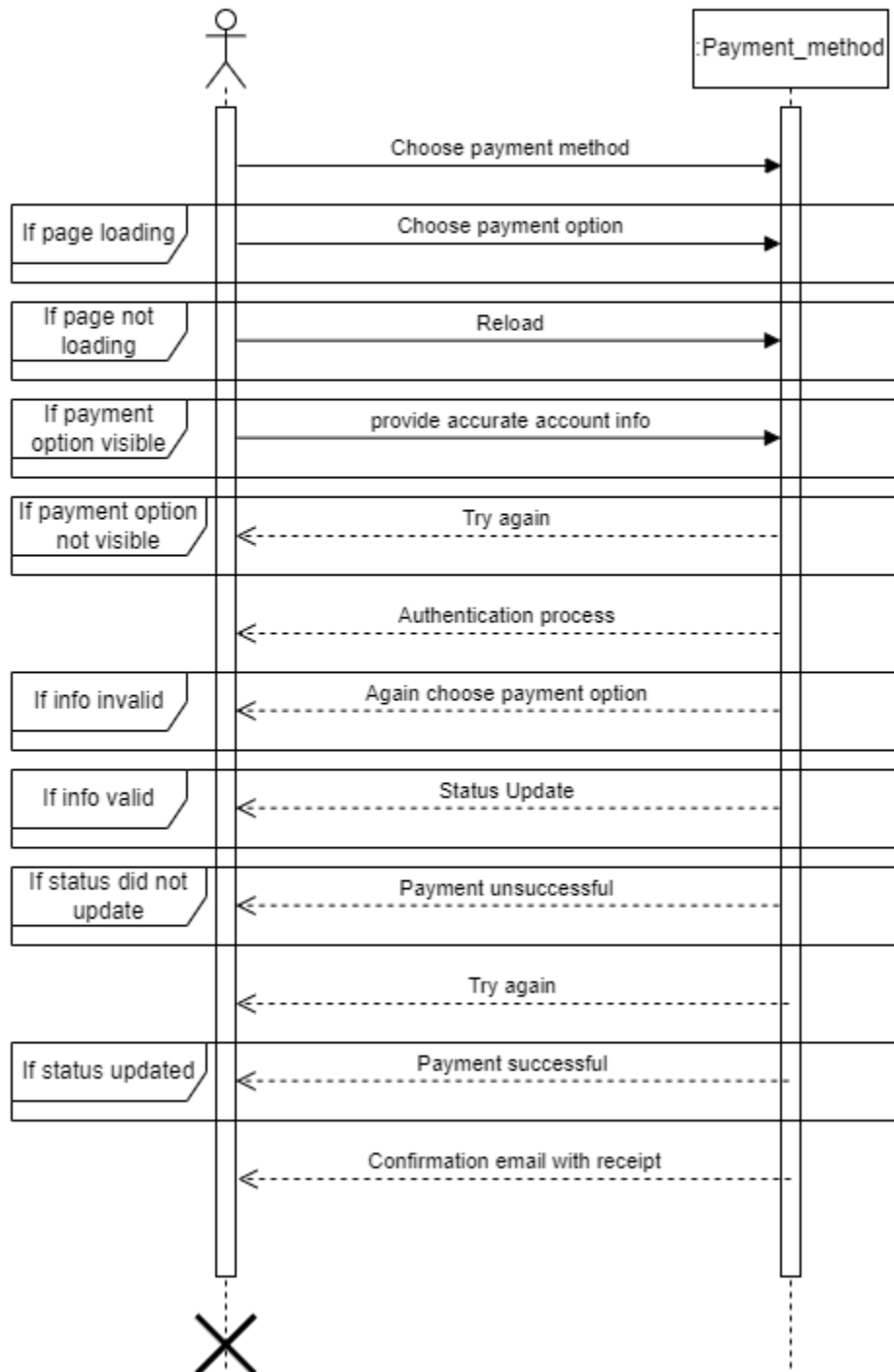


Sequence Diagram-04: Check Out and Payment

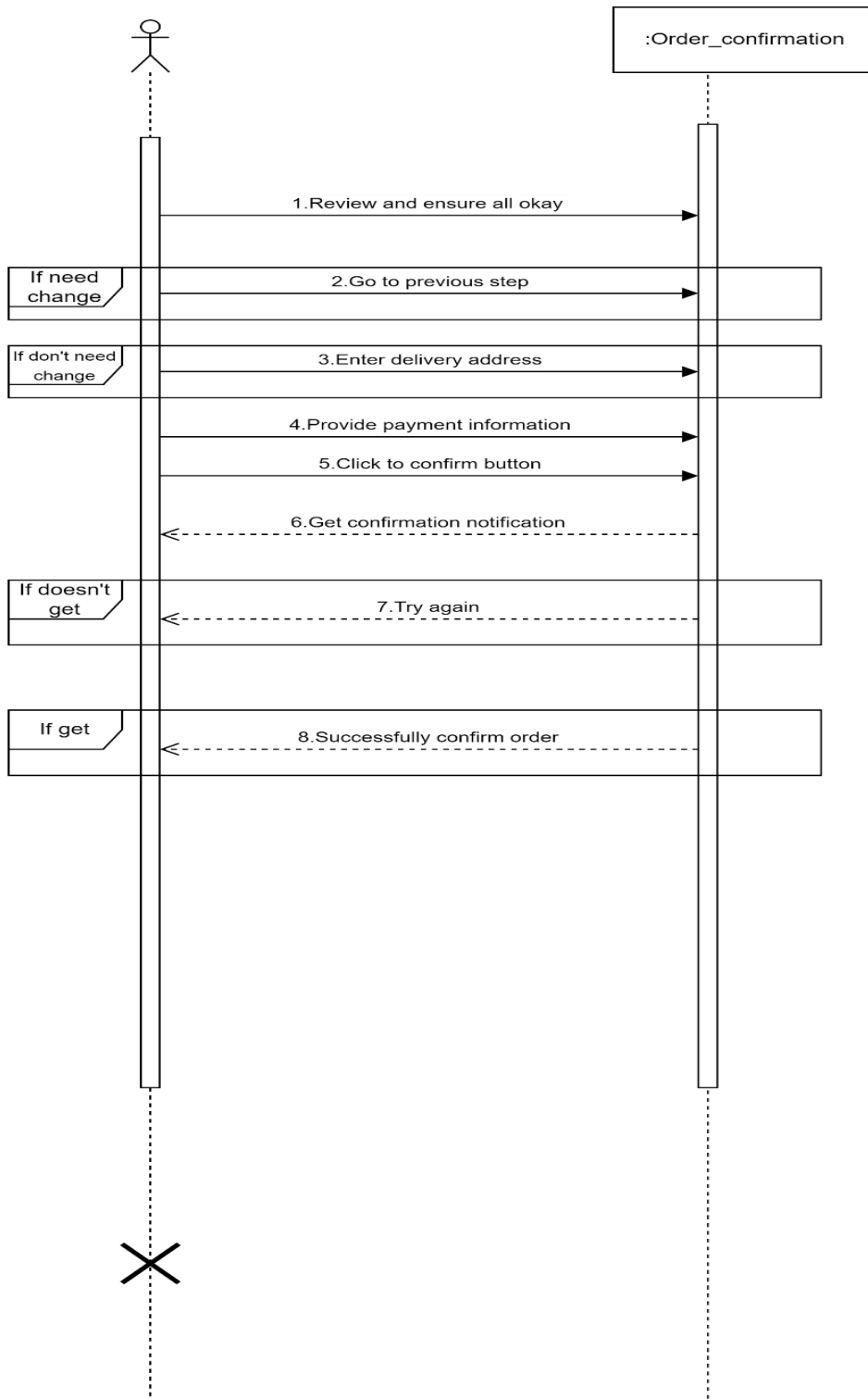


Sequence Diagram-05: Paying Method

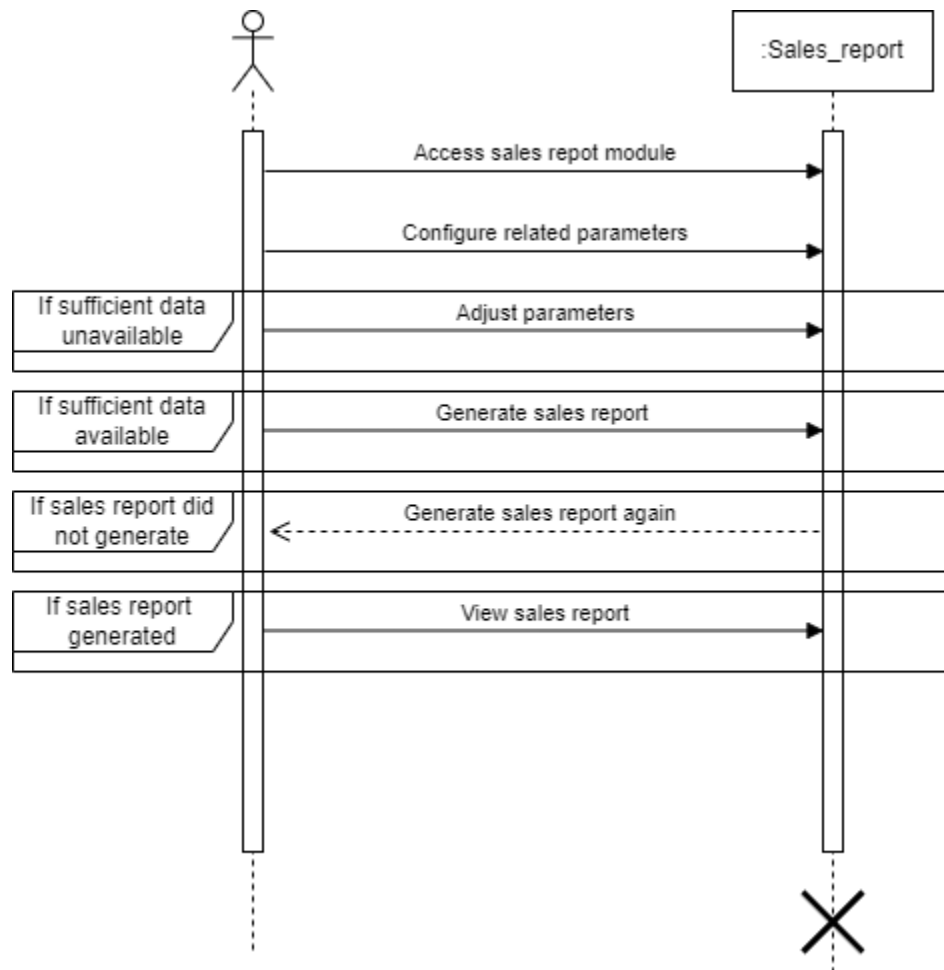
paying method



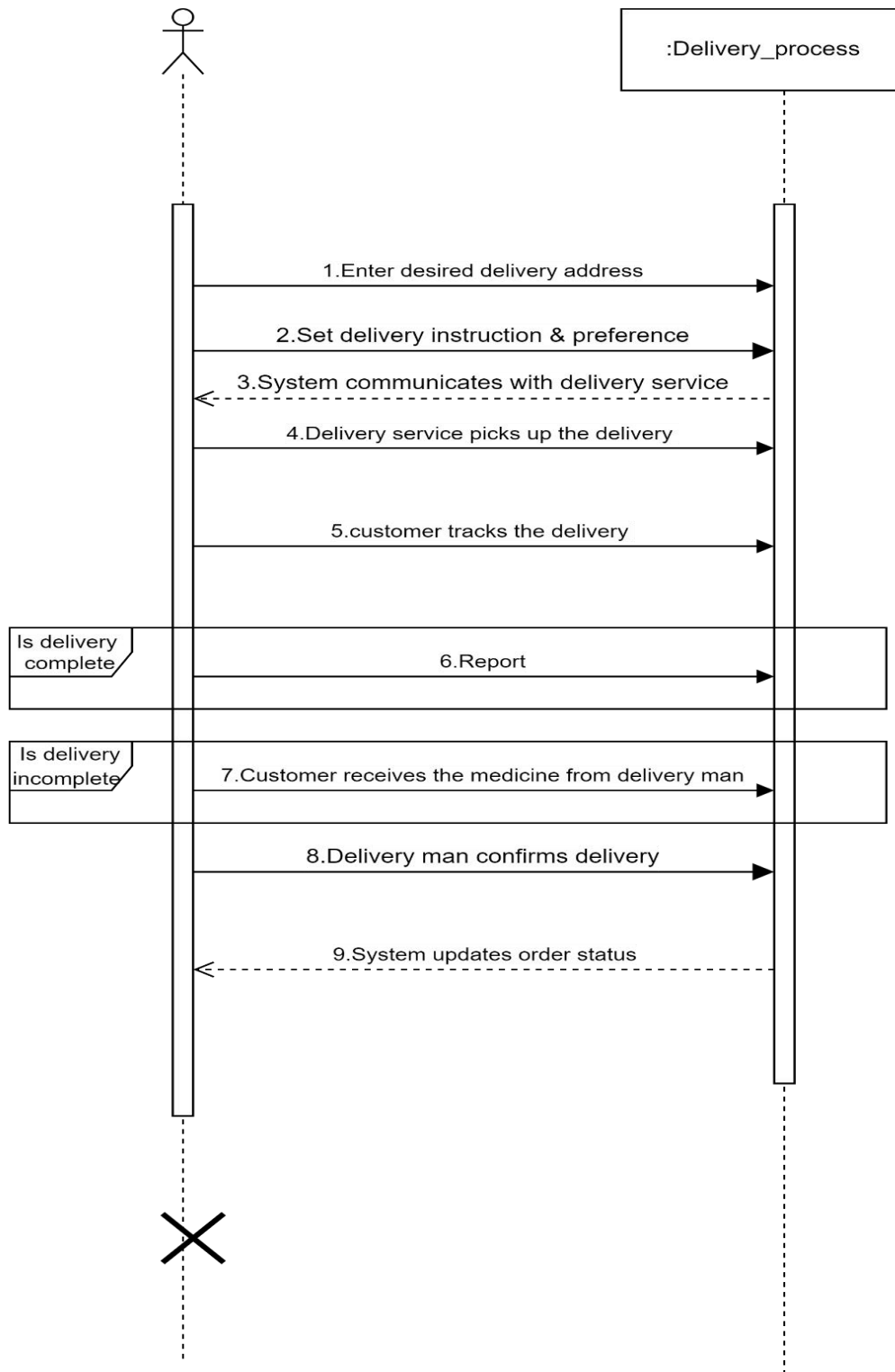
Sequence Diagram-06: Confirming Order



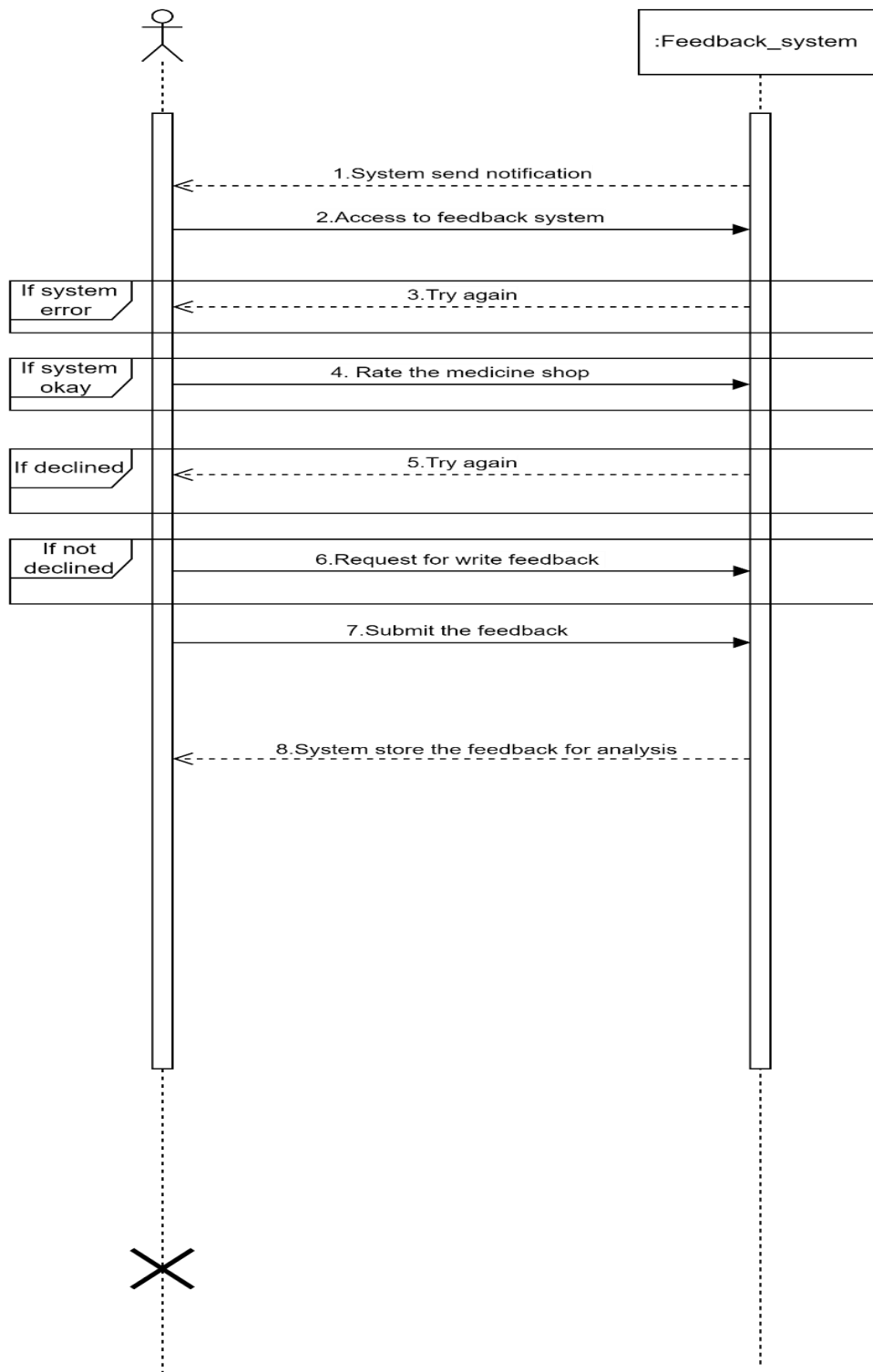
Sequence Diagram-07: View Sales Report



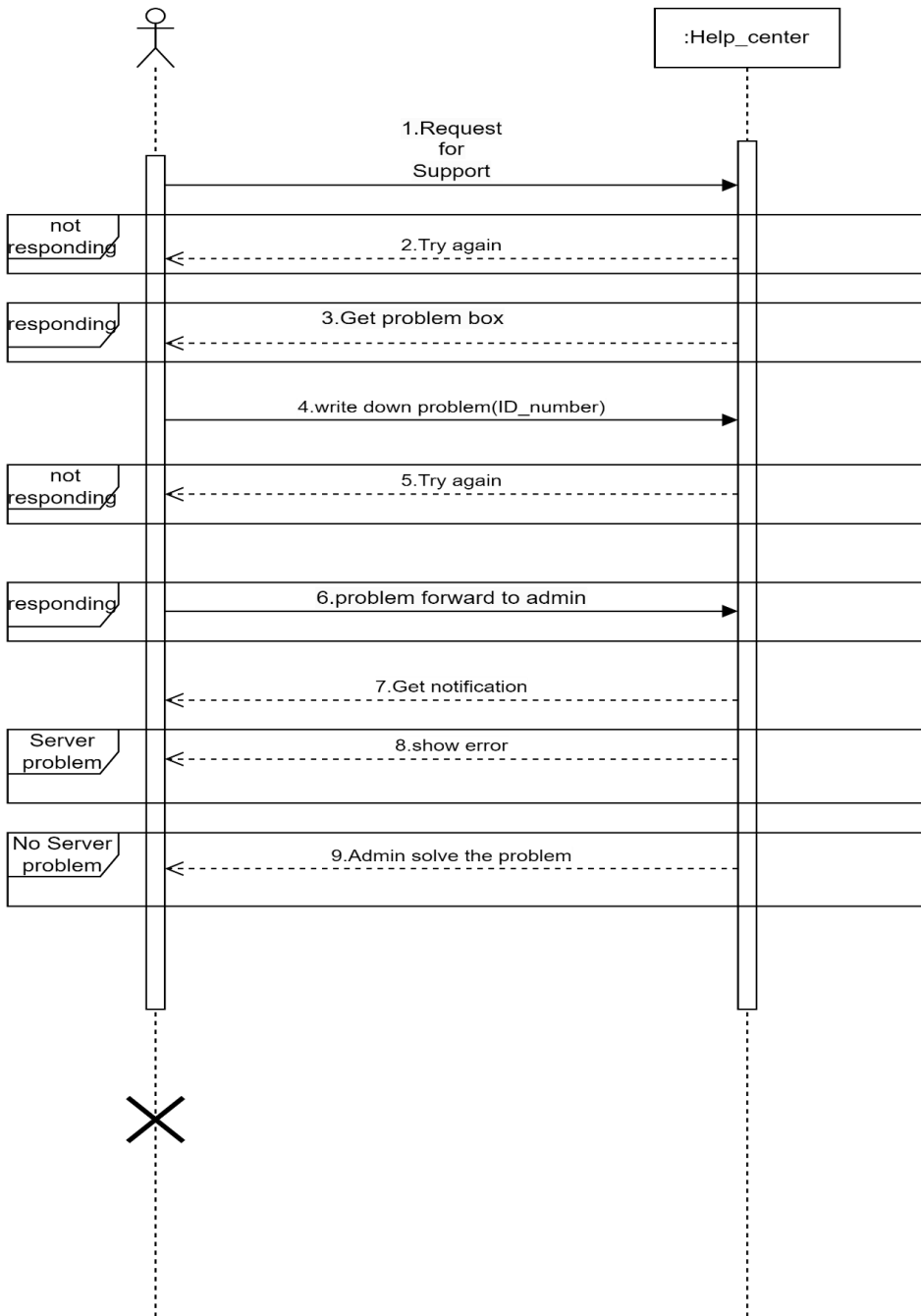
Sequence Diagram-08: Delivery Process



Sequence Diagram-09: Provide Feedback



Sequence Diagram-10: Get Help



Class Diagram

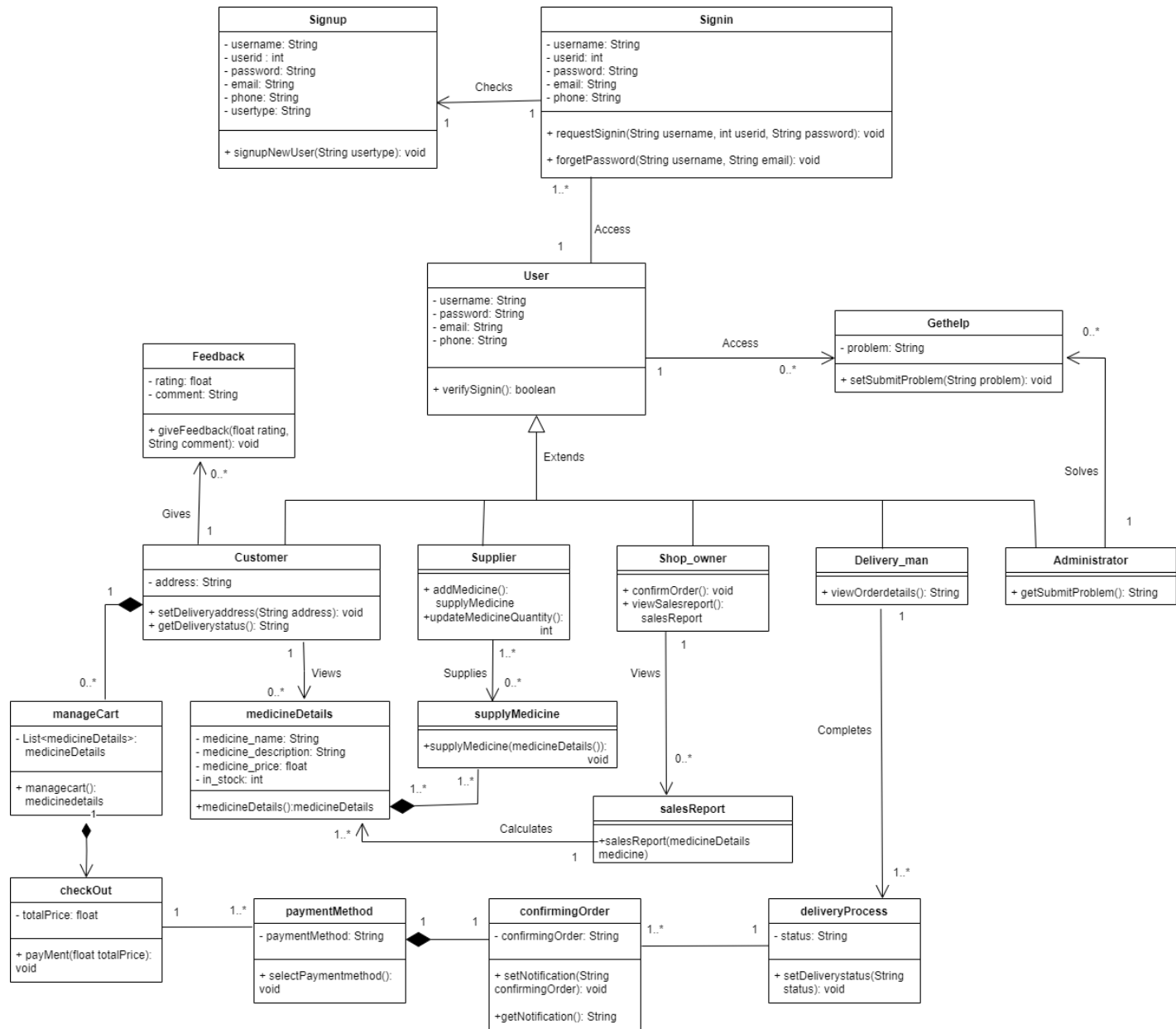


Figure- Class Diagram for Online Medicine Shop

Entity Relationship Diagram

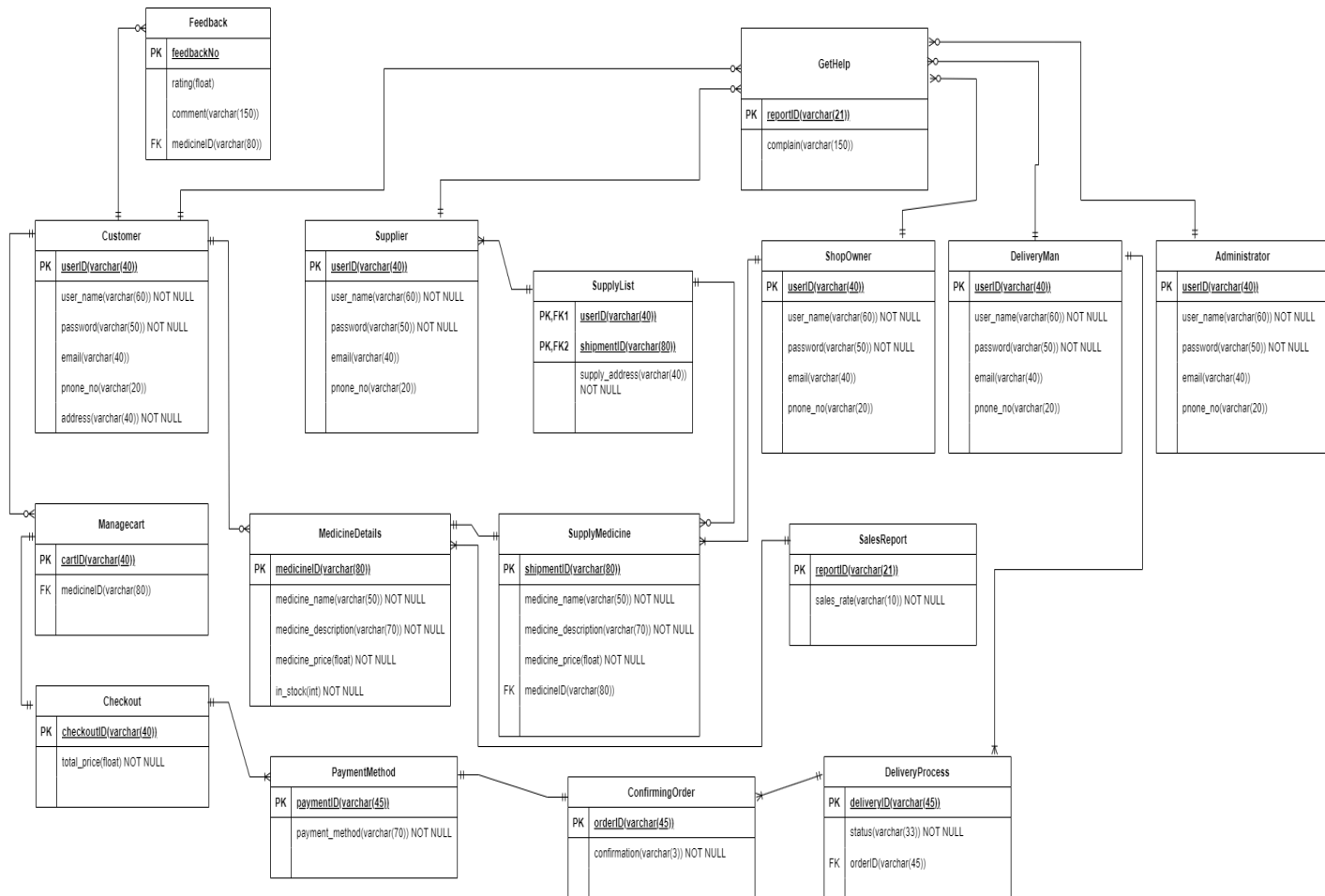


Figure- Entity Relationship Diagram for Online Medicine Shop